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UNIVERSITY OF ALBERTA

Cardiopulmonary Resuscitation: Knowledge, Attitudes, and Opinions of Older Adults in Acute Care and Long-term Care Settings

BY

©

M. Dianne Godkin

A thesis submitted to the Faculty of Graduate Studies and Research in partial fulfilment of the requirements for the degree of Master of Nursing.

FACULTY OF NURSING

Edmonton, Alberta
SPRING 1992

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Dianne Godkin

R.R.#1, Walton
Ontario, N0K 1Z0

April 10, 1992

UNIVERSITY OF ALBERTA

FACULTY OF GRADUATE STUDIES AND RESEARCH

The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies and Research for acceptance, a thesis entitled Cardiopulmonary Resuscitation: Knowledge, Attitudes, and Opinions of Older Adults in Acute Care and Long-term Care Settings submitted by M. Dianne Godkin in partial fulfilment of the requirements for the degree of Master of Nursing.

Janet C. Ross Kerr

Dr. Janet C. Ross Kerr

Vangie Bergum

Dr. Vangie Bergum

Dr. Ellen Toth

April 8, 1992

Abstract

Today, approximately one half of the recipients of cardiopulmonary resuscitation (CPR) are 65 years of age or older. Some have suggested that CPR be withheld from elderly persons since they have already achieved their "allotted life span." Others argue that age is not an appropriate criterion for withholding such treatment. Escalating health care costs, increasing societal value placed on autonomy, and a growing elderly population are additional factors driving this debate to the forefront. In this exploratory, descriptive study sixty face-to-face structured interviews with hospitalized adult patients, aged 65 or older, were conducted. The patients were in either an acute care or long-term care facility. The object of the interview was to determine their knowledge, attitudes, and opinions about CPR.

The interviews indicated that despite being of an advanced age (mean=73.2 years), having multiple medical conditions (mean=3.1), and believing that most older adults have a less than 25% chance of surviving a CPR attempt, the majority of this sample (65%) stated that they would wish to receive CPR if their own heart were to stop beating. The reasons study participants provided for desiring CPR varied, but many indicated simply that they "wanted to live." The greatest deterrent for those who did not want to receive CPR was a fear of brain damage. The majority of respondents believed that quality of life, health status, an individual's wishes, and an ability to care for oneself were very important factors in the CPR decision making process. Eighty five percent of those interviewed stated they would want to take part in the CPR decision making process. Other persons who should take part in the CPR decision making process were also identified.

The results of this study are of relevance to health care educators, policy makers, and practising health care professionals. This information contributes to our understanding of older adults' preferences concerning end of life health care planning, specifically with regard to CPR.

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Throughout the development and completion of this thesis the author has received support and assistance from many persons. Special thanks are extended to my supervisor, Dr. Janet C. Ross Kerr, and to my committee members, Dr. Vangie Bergum and Dr. Ellen Toth, for their encouragement and shared expertise, and to fellow students in the graduate program in Nursing who were always eager to mete out ideas, information and laughter when it was most needed.

The author also wishes to offer warm thanks to her parents and family without whose long-distance support, both financially and emotionally, this thesis would not have been possible.

I am, however, most indebted to those older adults who participated in the interviews and who openly shared their knowledge, attitudes, and opinions about cardiopulmonary resuscitation with me. Their sincere and honest responses allowed me to learn much more about their wishes regarding their end of life health care planning--information I hope will be of use to other health care professionals.

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CHAPTER 1: INTRODUCTION

Cardiopulmonary resuscitation (CPR), in the form of closed chest cardiac massage, was first introduced by physicians as a treatment for the sudden cessation of heart beat in the 1960's (Kouwenhoven, Jude, & Knickerbocker, 1960). In the thirty years since CPR's introduction, the methods for restoring a person's heartbeat have been continually refined and updated and have become increasingly more sophisticated and invasive. Today, the administration of advanced CPR, in addition to external cardiac massage, may involve the use of artificial respiration, electrical shock, intravenous or intracardiac medications, and intubation. Unlike most other medical treatments, CPR, in its basic form, which includes the use of artificial respirations and chest compressions, may be initiated and performed by people other than physicians. These people include other health care professionals, such as nurses and ambulance attendants, as well as lay people in the community who have completed basic training in the administration of CPR.

Initially, the technique of CPR was restricted to use on persons who for some reason experienced a sudden, unexpected heart stoppage such as might occur in a near-drowning, heart attack, or during surgery. These persons were usually otherwise reasonably healthy individuals. Its use today, however, is much broader. In most health care institutions, CPR is administered in all cases of cessation of heartbeat, unless the order "do not resuscitate" is written by a physician on the patient's chart. Indeed, "almost every dying person is a potential candidate for CPR because cardiopulmonary arrest is the final common pathophysiologic event in the dying process" (Youngner, 1987, p. 24).

Intuitively, the advent of CPR and its subsequent improvements would appear propitious. Prior to CPR's introduction, the outcome for a person whose heart stopped beating was almost always negative--death. As with many new technological advances, questions have been raised regarding its widespread use. Cardiopulmonary resuscitation has been utilized inappropriately in the past as a method of prolonging the dying process, rather than as a procedure to restore life (Dolan, 1988; Fisher, 1989; Fusgen & Summa, 1978; Gordon & Hurowitz, 1984; Nolan, 1987). Hospital policies, which dictate what Buckman and Senn (1989) refer to as CPR by default, have resulted in resuscitation attempts being made on persons with terminal illnesses and multiple organ failure--persons for whom death was perhaps already imminent. Both the medical and nursing literature (e.g., Bailey-Allen, 1989; Barr, 1987; Besdine, 1983; Cushing, 1981; Dolan, 1988; Ellis, 1987; Fox & Lipton, 1983; Grandstrom, 1987; Huttman, 1984; Lo & Steinbrook, 1983; Miles, Cranford, & Schultz, 1982; Miya, 1984; Thomas & Latimer, 1989) document a multitude of examples of how the indiscriminate use of CPR has created dilemmas, unfortunate circumstances, and much anguish for nurses, physicians, patients, and patients' family members. The negative consequences of CPR have included a significant reduction in the quality of life of the CPR survivor as a result of brain damage, a prolonged and painful death, financial hardship, and feelings of guilt and abandonment by family and health care professionals. One begins to wonder if the quest for extending the human life span has perhaps gone too far.

A group of individuals that presents a unique and complex challenge to the health care system with respect to CPR is the older adult population. Several factors contribute to this challenge. The first factor is the sheer number of older adults who undergo CPR. Approximately one half of all those who undergo the procedure of CPR are over the age of 65 (Schiedermayer, 1988). When one considers that this segment of the population is increasing in number and that older adults will make up between 12 and 15 percent of the population by the year 2001 (Denton & Spencer, 1988; Lipsitt, 1981), the number of potential older CPR recipients is substantial. As health care and financial resources are finite, the concern has been raised that society may not be able to afford to provide CPR to all older individuals. CPR can be a costly procedure in that it can lead to hospitalization for an indeterminate amount of time. Further, CPR outcomes for some persons are such that they will require life long care. How to best distribute available health care funding remains a contentious societal issue.

Arguments by ethicists, economists, and health care professionals have been put forward which propose using age as a criterion for withholding certain medical treatments, such as CPR. Simplistically, this stance could be summarized as follows. Older adults have already achieved their allotted life span; hence, health care dollars should be spent on lengthening the lives of the young. There is, however, an opposing body of literature which refutes the use of age as a criterion for withholding treatments such as CPR (e.g., Boyajian, 1988; Fox & Lipton, 1983; Gordon & Hurowitz, 1984; Kluge, 1988; Schiedermayer, 1988). Alternative criteria for making treatment decisions, other than age, are supported by proponents of this position. This debate seems to complicate the CPR issue with respect to older adults.

It would appear that decisions about CPR will need to be made by, or for, many older adults in the future. The process for reaching such decisions has not been well researched or articulated. The literature is replete with opinions from health care professionals as to who should receive CPR and as to why and when CPR should be carried out. Although the medical factors affecting the outcome of CPR have been studied extensively, there is little research that has reported on the role that other factors, such as quality of life or individuals' wishes, may play in reaching a decision about

CPR. In addition, there is a paucity of information on the older adult's knowledge about, and perspective on, resuscitation. Health care professionals, who strive to do what is good for a patient, have identified a bona fide need to know more about who is best able to decide to withhold or perform CPR and what factors should influence that decision. Examining the perspective of older adults about CPR will add a further dimension to the existing body of knowledge about resuscitation. Without this knowledge the achievement of truly informed and rational decisions about CPR for the older adult population will remain impossible.

Statement of the Purpose

The present study was designed to explore and describe the views of older adults in acute care and long-term care settings regarding cardiopulmonary resuscitation. Information about older adults' knowledge of CPR and their attitudes and opinions about CPR were sought.

Statement of the Research Problem

The general question addressed in this research was, what are the attitudes, opinions, and knowledge of older adults in acute care and long-term care settings about cardiopulmonary resuscitation? More specifically, the following queries were investigated.

1. Are older adults in acute care and long-term care settings knowledgable regarding CPR and its outcomes?
2. What are older adults' attitudes toward CPR for themselves?
3. Whom do older adults believe should be involved in the CPR decision making process? Are these persons the same as those identified in the literature by health care professionals?
4. What criteria do older adults believe are relevant to the resuscitation decision making process? Are these the same criteria identified as important in the literature by health care professionals?
5. Are there any significant differences between older adults in acute care and long-term care settings with respect to the above questions?
6. What demographic factors or characteristics of older adults in the acute care and long-term care settings are related to their knowledge, attitudes, and opinions regarding CPR?

Definitions

Cardiopulmonary Resuscitation (CPR): the constellation of treatments utilized in an effort to restore heartbeat (such as chest compressions, artificial respirations, intubation, medications, and defibrillation) (Fowler, 1989). Basic CPR includes only chest compressions and artificial respirations, while advanced CPR includes all of the above listed modalities of treatment.

Knowledge: a person's understanding and awareness of something (CPR).

Opinions: a person's viewpoint on a specific issue (CPR).

Attitudes: a person's more generalized predispositions toward an object (CPR).

Older Adult: a person who will be 65 years or older in the current calendar year (1991).

Acute Care Setting: a facility where the focus is on active treatment of medical conditions and the goal is the cure or control of illness or disease. Availability of, and reliance on, technology is great in this setting.

Long-term Care Setting: a facility where persons with chronic conditions, those without a known cure, are treated and the goal is to maximize quality of life. Availability of, and reliance on, technology is much less apparent than in the acute care setting.

No CPR, No Code or Do-Not-Resuscitate (DNR): a Do-Not-Resuscitate or DNR order on a patient's chart indicates that should the patient cease to have a heart beat or respirations no attempt at resuscitation should be made. Throughout this thesis, this term was used synonymously with the terms "No CPR" or "No Code". These terms do not imply that any other forms of treatment or care, such as food or antibiotics, be withheld. They only refer to the withholding of CPR as defined above. The term preferred by the author is "No CPR", as this clearly indicates what form of treatment is to be withheld. (In certain cases limits to the application of CPR may also be indicated--i.e. Chest compressions and artificial respirations, but no intubation or defibrillation.)

Significance of the Study

This study provides data that adds to the limited body of knowledge concerning older adults in the acute care and long-term care settings and their perspectives regarding cardiopulmonary resuscitation. The findings identify knowledge gaps and misconceptions about CPR that exist among the older adult population in acute care and long-term care facilities. This information should assist health care professionals in formulating educational programs about CPR targeted to the needs of the older adult population.

In particular, this information will help guide health care professionals in completing the CPR decision making process with their older adult patients. The individuals that older adults feel should be involved in the CPR decision making process were identified. Additionally, those factors that older adults feel should be considered when deciding about CPR were determined. This data may aid in the development of health care policies about CPR which address the concerns of older adults in both acute and long-term care settings.

A raised level of awareness about CPR and its implications for older adults, by both patients and staff in the institutions involved in the study, is likely to occur. Open discussion about CPR between health care professionals and their older adult patients may be promoted through participation in the study. It is hoped that the findings of this study will, through all of the above, contribute to the reduction of dilemmas surrounding the administration of CPR, and that, in turn, the anguish and suffering experienced by patients, families, and health care professionals will be diminished.

Limitations

The following limitations apply to this descriptive, exploratory study in which data were collected through a structured face-to-face interview with sixty participants. They are as follows:

1. A limited amount of empirical research has been previously conducted on the stated problem. No specific theories had been previously developed upon which hypotheses could be based.
2. No research instrument was available to address the research problem. The validity of the questionnaire that was developed was limited to face and content validity.
3. The results of the study are limited to older adults who are 65 years or older, mentally competent, English speaking, and physically stable. Generalizations beyond the acute care and long-term care settings utilized in this study should be made with caution. Results cannot be generalized to older adults in the community.
4. As the larger of the two long-term care institutions involved in the study had an all male population, the sample drawn from long-term care was heavily male biased. This is in contrast to provincial and national statistics which indicate that the majority of institutionalized older adults are female (Statistics Canada, 1989).
5. Memory problems, more common in elders, may have affected participants' responses. Mental competence was determined by the report of the nurse caring for the patient or the clinical supervisor. Completion of a less subjective test of competence, such as the Mental Status Questionnaire (Kahn, Goldfarb, Pollack, and Peck, 1960) would have provided a more objective measurement.

6. The answers of respondents may have been affected by the presence of the interviewer. Efforts to reduce the interviewer's influence were made. These included informing respondents that there were no right or wrong answers to questions and by wording questions the same to each respondent. Evaluators of the questionnaire assessed each question in an effort to ensure that wording was unbiased and objective.
7. The sample drawn in this study was sixty individuals. Sample size was determined primarily on the basis of available subjects and resources and adequacy for statistical analysis in comparing the acute care and long-term care groups. A larger sample size would have facilitated further statistical analysis. A number of demographic variables were analyzed, and through multiple testing, chance alone may have resulted in the finding of significant relationships.

Assumptions

1. Respondents would answer the questions directly and honestly to the best of their abilities.
2. Respondents would understand the information presented to them and be able to express a viewpoint on the questions asked.

Organization of the Thesis

In chapter 2, an overview of the relevant literature and research that addresses the topic of cardiopulmonary resuscitation and older adults is presented. In the third chapter, the research methods and data analysis used in this study are described. A description of the study population and setting are contained in this chapter. The results of the study are organized according to the six questions posed earlier in this introductory chapter and are included in chapter 4. In chapter 5, there is a discussion and interpretation of the findings. In the final chapter, the conclusions of the study and the implications for health care education, practice, policy, and research are reported.

Summary

Older adults' knowledge, attitudes, and opinions about cardiopulmonary resuscitation are not generally well understood. The purpose of this exploratory descriptive study was to seek older adults' perceptions about CPR. Six specific research questions were proposed. Significant terms to be used throughout the text were defined. In this introductory section the potential significance of this study for health care professionals, patients, and their families was identified. It was concluded that the results of the study may assist in: the development of educational programs for older adults about CPR; the formulation of appropriate policies which address issues relevant to the CPR decision making process; and the reduction of anguish and suffering experienced by patients, families, and health care workers. Finally, the study's limitations were presented, and an overview of the organization of the remainder of the thesis was provided.

CHAPTER 2: RELATED LITERATURE AND RESEARCH

Older Adults and CPR

The administration of cardiopulmonary resuscitation (CPR) to older adults, defined here as those who are 65 years of age or older, presents several unique challenges to both the health care system and to individual health care professionals. The first is the vast number of older adults who have undergone CPR. The older adult age group makes up approximately one half of all those who undergo the procedure of CPR (Shiedermayer, 1988). Canada's elderly population is expected to grow steadily well into the next century. In Canada, in 1981, almost ten percent of the population was over the age of 65. It is predicted that by the year 2031 their number will have doubled--21% of the people in Canada will be in the older adult age group (Statistics Canada, 1984). It is evident that if projections of Canada's growing elderly population materialize, there will be a significant increase in the number of older adults for whom a decision about CPR will need to be made.

It is in a health care institution that CPR is most often both discussed and administered. Although many lay persons have been trained in basic CPR techniques--artificial respirations and chest compressions--anyone who survives a CPR attempt in the community is likely to be transferred to a hospital setting for continued advanced resuscitation care.

In most Canadian health care institutions, unless the order to not administer CPR is written in a patient's chart by the attending physician, every person who experiences a cardiac arrest while in hospital will receive CPR. Although older adults represent a small proportion of the population (approximately 10%), older adults account for more than 40% of all hospital days in acute care (Hasiuk, 1987; Maddox, 1987). In long-term care settings the majority of residents are in the older adult age group. At any one time, close to 10% of Canada's older adult population is in a long-term care institution (Spasoff et al., 1978). About one in five older adults will spend time in a long-term care institution at some point in their life (Besdine, 1983). These statistics suggest that, unless a decision about CPR has been made in advance either by or for older adults, many will receive CPR regardless of their desires.

Few physicians routinely discuss CPR with their patients (Bedell & Delbanco, 1984; Bedell, Pelle, Maher, & Cleary, 1986; Havlir, Brown, & Rousseau, 1989). Physicians and medical residents retrospectively surveyed by Bedell and Delbanco (1984) reported that they had spoken to only 19% of patients about CPR prior to their episode of cardiac arrest. A study of elderly outpatients found that only two of 75 study participants had previously discussed CPR with their physician (Shmerling, Bedell, Lilienfeld, & Delbanco; 1988). Those physicians that have discussed CPR with patients or their families report that acute care or long-term care institutions are the settings in which most discussions occurred (Bedell & Delbanco, 1984; Bedell et al., 1986; Ebell, Doukas, & Smith, 1991). It seemed, therefore, appropriate to interview older adults who were in the settings where CPR was most likely to be both discussed and performed.

There is a concern that Canada's health care system will not be able to afford to care for its growing elderly population. It has been well documented that the health care needs of individuals increase in old age. A disproportionate amount of the health care budget is currently spent on those over age 65 (Dowd, 1984). In Alberta, between the years of 1971 and 1981, the average number of hospital days per year was 6.5 for the elderly population compared to 1.2 for the non-elderly (Szafran, 1985). This has led some ethicists, economists, and health care professionals to propose using age as a criterion for withholding certain medical treatments, such as CPR. Callahan (1987) suggests that once a person has reached their natural life span, which he defines as late seventies or early eighties, only medical care directed at relieving suffering should be administered. Baer (1979) proposes that any person over 65, who has not expressed a desire for CPR, should not receive it if they experience an unwitnessed arrest. For a witnessed arrest in a person over 65 years of age, Baer recommends that CPR be given for a maximum of five minutes only.

Some suggest that health care dollars should be directed toward the young--those who have not yet lived a long and full life. They argue that older individuals have had the opportunity to experience what life has to offer. They would also suggest that elders should be willing to sacrifice their needs for the sake of youths, and they would say that nature should be allowed to follow its course (e.g., Callahan, 1987; Baer, 1979; "Gov. Lamm asserts", 1984; Thomasma, 1984b). Governor Lamm of Colorado was quoted by the New York Times (March 29, 1984) as stating that elderly people have "a duty to die and get out of the way....Let the other society, our kids, build a reasonable life" (p. A10). Thomasma (1984a) believes that a fear of death is a major barrier that inappropriately prevents us from using age as a criterion to withhold treatment.

In contrast to these beliefs there are others who do not consider age an appropriate criterion for withholding CPR (e.g., Boyajian, 1988; Fox & Lipton, 1983; Gordon & Hurowitz, 1984; Kluge, 1988; Schiedermayer, 1988). Siegler (1984) discussed a paper presented by Rick Moody entitled Intergenerational obligations: Ethics across the life cycle. In this paper, Siegler (1984) stated that Moody offered a number of reasons why we should feel obligated to meet the needs of the elderly population--universal human rights, a compassion for the weak, their prior contributions, the perception of elderly people as victims who need protection, and universality of aging. Roy (1988) provides another reason why the needs of the old should be met. Roy (1988) stated:

> The oldest old have a unique vocation. Only they can enlighten us all about the meaning and the demands, the losses and the fulfilments, of the full curve of human's life experience. Nurturing that vocation and assuring the economic, social, and cultural conditions for its flowering are essential for the advance of a society into civilization. (p. 36)

Others argue that to deny medical treatment to the aged goes against the widely held ethical principles of autonomy--the right to self determination and justice--equal and fair treatment for all (Bennett, 1988; Boyajian, 1988; Cross & Churchill, 1982; Kluge, 1988; Schneiderman & Arras, 1985; Uhlmann et al., 1987).

In addition to the ethical, societal, and economic arguments for and against performing CPR on older adults, there is also a scientific or medical controversy. Some studies suggest that older individuals have a very poor chance of recovery following CPR (Lazzam & McCans, 1991; Murphy, Murray, Robinson, & Campion, 1989; Taffet, Teasdale, & Luchi, 1988). Many other studies report that age is not a significant predictor of CPR success (Bayer, Ang, & Pathy, 1985; Bedell, Delbanco, Cook, & Epstein, 1983; Fusgen & Summa, 1978; Gordon & Hurowitz, 1984; Gulati, Bhan, & Horan, 1983; Linn & Yurt, 1970; Murphy et al., 1989; Rahman, 1989).

Equivocal findings such as these complicate the discussion of CPR and older adults. This controversy will be explored further in the discussion of age as a factor to be considered when deciding about CPR.

CPR Knowledge Level of Older Adults

Few studies on older adults' level of knowledge about CPR were found in the literature. In one study, seven percent of a sample of 75 elderly outpatients were considered to have a good understanding of CPR (Shmerling et al., 1988). When asked about the source of their information, television was most often reported. Only three percent stated that they had previously discussed CPR with a physician. A more recent American study by Schonwetter, Teasdale, Taffet, Robinson, and Luchi (1991) found similar results. Few individuals were considered to have a high knowledge level of CPR. Just over 60% of their sample of elderly veterans had at least some knowledge of CPR (i.e. when prompted could identify mouth-to-mouth breathing or pushing on the chest as a component of CPR). They did, however, significantly overestimate their chances of surviving a CPR attempt. Again, most reported that television was their main source of information about CPR. In New Zealand, a group of researchers compared the knowledge levels of two groups of older adults--a study group who had received a detailed, 15 minute description of CPR, and a control group who had not (Russell, Campbell, Allison, Caradoc-Davies, & Busby, 1991). Those who had received the supplemental information were subsequently found to have a greater knowledge level than those in the control group. However, both groups continued to be overly optimistic about their potential recovery following CPR. In the control group, over 90% believed that their chances of survival would be greater than 50%. As well, some 80% were unaware of potential complications such as brain damage.

Health care professionals need to be aware of the knowledge level of older adults so that they can identify knowledge gaps and misconceptions. If older adults are to make an informed decision about CPR, it is necessary that they understand the procedure of CPR and its outcomes ("A special Nursing Life poll", 1982; Fader, Gambert, Nash, Gupta, & Escher, 1989; Murphy, 1988; Quintana, Nevarez, Rogers, Murata, & Tzamaloukas, 1991). It is not known if older Canadian adults who are in acute care or long-term care settings have similar levels of knowledge compared to those found in the above studies.

Several studies which report discussions of physicians with patients about CPR indicated that most were able to understand the concept of CPR and were willing to participate in such a discussion (Havlir et al., 1989; Quintana et al., 1991; Shmerling et al., 1988). The age of the patients involved in these discussions was not restricted to older adults, but did include a significant number of individuals in the older adult age range. Some go further to say that older adults welcomed the opportunity to discuss the issue of CPR (Bedell & Delbanco, 1984). Murphy (1988) reported that none of the adults in his survey of older adults in long-term care refused to discuss resuscitation because he or she felt uncomfortable with the subject matter. Havlir and associates (1989) also stated that no one in their study of older, chronically ill home care patients was "adverse to discussing code status" (p. 54). Similarly, Russell et al. (1991) expressed that most patients involved in their study were both comfortable in discussing CPR and had thought about the issue previously.

Attitudes of Older Adults toward CPR

Relatively little information is known about how older adults feel about CPR--do most older adults want to receive CPR if they should need it or not? A study conducted by Wagner (1984) asked 163 elderly women if they would want to receive CPR: 11 said yes; 77 said no; 64 said they wanted their physician to decide; 10 were incompetent; and one did not respond to the questionnaire. Murphy (1988) claims that most patients in long-term care facilities do not want to be resuscitated. However, this conclusion was based on his own discussions with 24 patients of whom 23 stated they would not want to receive CPR. Although another person was present during these discussions, it is difficult to know if CPR was presented in a purely objective manner. Patients with whom discussions occurred were not chosen randomly, so generalizations to all patients in long-term care can not be confidently made.

Shmerling and associates (1988) asked 75 elderly outpatients their preference regarding resuscitation in three scenarios--irreversible congestive heart failure, terminal cancer, and coma. For each of these situations, the majority of the sample did not wish to have CPR performed. However, a significant number of respondents did desire CPR. In the irreversible congestive heart failure scenario, 41% indicated they would want an attempt at resuscitation made. Even in the presence of a coma, 25% indicated they would request CPR. The authors reported that "attitudes about CPR were not significantly affected by level of education, income, prior understanding of CPR, age, race, religion, or marital status" (Shmerling et al., 1988, p. 319). However, the sample for this study was not randomly drawn, thus generalizations to the elderly population at large can not be made with confidence.

Following a 15 minute detailed description of CPR, 49 randomly selected older adult patients admitted to an assessment and rehabilitation unit were asked to indicate their preference regarding CPR (Russell et al., 1991). More than one half responded positively, 35% responded negatively, and 10% wished not to make a decision. This decision did not appear to be influenced by gender, marital status, or diagnosis. Those responding positively were, however, significantly younger than those who did not wish to receive CPR.

Forty eight competent individuals who resided in a nursing home were asked if they would want to be resuscitated. 37.5% said no; the remainder replied yes (Fader et al., 1989). Bedell and others (1983), in a sample of 38 CPR survivors of a variety of ages, found that 21 wanted CPR in the future should they need it again. They did not report the age range and mean of those responding positively compared with those who answered negatively. Buckman and Senn (1989) talked with 36 terminally ill cancer patients and reported that 70% did not want CPR. The results of these studies on patients' attitudes toward CPR vary widely. Randomly selecting older individuals in the acute care and long-term care settings to participate in an interview about their attitudes about CPR would add to the body of knowledge in this area.

Factors to be Considered

According to the literature, a near consensus appears to have been reached by health care professionals regarding certain factors which should be addressed when contemplating, and prior to implementing, a decision to withhold CPR from a particular person. These factors include the person's present or anticipated quality of life (Annas, 1981; Besdine, 1983;

Boyajian, 1988; Callahan, 1987; Fader et al., 1989; Fox & Lipton, 1983; Lewandowski, Daly, McClish, Juknialis, & Youngner, 1985; Lo & Jonsen, 1980; Nystrom & Andersson-Segesten, 1990; Starr, Pearlman, & Uhlmann, 1986; Tomlinson & Brody, 1988; Wolff, Smolen, & Ferrara, 1985; Youngner, 1988), the medical condition of the person (Besdine, 1983; Callahan, 1987; Fowler, 1989; Gordon & Hurowitz, 1984; Lo & Jonsen, 1980; MacDonell, 1981; Tomlinson & Brody, 1988; Youngner, 1987; Youngner et al., 1985), and the person's expressed wishes (Besdine, 1983; Fowler, 1989; Lo & Jonsen, 1980; Roy, 1988). Each of these factors will be discussed in detail.

Quality of Life

Quality of life is generally agreed upon by health care professionals and ethicists as an important and crucial factor to consider when making a decision regarding CPR. Unfortunately, it is a very difficult term to define and measure. According to Packa (1989), an acceptable definition of quality of life has not yet been developed. Quality of life is a multi-faceted concept. Good health, overall well being, life satisfaction, and happiness may be some of its components (Packa, 1989). A determination of a satisfactory quality of life, or alternatively a life worth living, must be based on a particular individual's own assessment (Fox & Lipton, 1983). What is considered an acceptable quality of life for one person, may not be considered adequate by another

(Miles et al., 1982). Additionally, what is a tolerable quality of life at one time in a person's life may not be acceptable at another point in time.

Of particular relevance to the discussion regarding quality of life is the attempt of a physician or nurse to make an assessment of the quality of life of an individual patient. Without the input of the patient, this is likely to be an impossible task. A study by Starr et al. (1986) compared the quality of life assessments of 65 patients with those of 50 physicians and found that the physicians, in general, rated the patients' quality of life lower than did the patients. These researchers also found that physicians based their evaluations of quality of life primarily on health indicators, while patients focused on more social issues such as friends, work, and self esteem (Starr et al., 1986). Ulhmann and Pearlman (1991) also found that physicians generally rated the quality of life of older outpatients worse than did the patients themselves. In this same study, the reseachers did not find a significant relationship between a patient's perceived quality of life and their preference for CPR. However, these researchers acknowledge that the knowledge level of the study participants regarding CPR and its outcomes was not known and presumed to be limited. Therefore one is unsure if these preferences were based on informed decisions. Additionally, the instrument used to measure quality of life was developed for the study and may not have tapped all the components affecting quality of life.

If quality of life assessments are to be used with confidence as a criterion for withholding CPR, further knowledge is needed. It would be helpful for health care providers to know if quality of life is an important consideration of an older adult when faced with a decision to have, or not have, CPR. One study by Ebell et al. (1991) did find that outpatients consider quality of life issues to be important when making "No CPR" decisions. They did not investigate, however, if perceived quality of life was associated with "No CPR" decisions. Further study of the relationship between an older adult's perception of their quality of life and a decision to withhold CPR is required.

Medical Condition

Numerous studies have been conducted in an attempt to identify the characteristics of persons for whom CPR is most likely to be successful, or alternatively, for whom the outcome is most often negative. Persons who experienced unwitnessed arrests; had multiple pathologies; had a diagnosis of cancer, pneumonia, anaemia, or sepsis; or had a history of nonambulation prior to the arrest were all found to have consistently lower survival rates following CPR when compared to those without these characteristics (Bedell et al., 1983; Fusgen & Summa, 1978; Gulati et al., 1983; Murphy et al., 1989; Taffet et al., 1988; Uhlmann, McDonald, & Inui, 1984).

In order to make informed decisions regarding CPR both health care professionals and the persons they are caring for need to be aware of the likely outcome of CPR under specific medical conditions. Contrary to what many believe, patients who survive an initial CPR attempt usually either do well or die within a few days. Few linger on in a vegetative or severely debilitated state (Bedell et al., 1983; Lazzam & McCans, 1991; Moss, 1989).

Many would agree that withholding CPR from patients who are terminally ill, and for whom death is imminent, is both medically and ethically acceptable. Indeed, many CPR policies suggest these two criteria be met before a "No CPR" order is written. Unfortunately, defining what is meant by imminent death and determininations of medical futility are difficult at best (Lee & Berry, 1991; Singleton & Dever, 1991). One suggested definition of imminent death is that the individual will die in a shorter time than it would take to die from starvation (Singleton & Dever, 1991). Because of the associated uncertainties in diagnosis and prognosis, Wicclair (1991) concludes that "although clinical judgments are indispensable, they alone cannot justify treatment decisions from an ethical perspective" (p. 283). Therefore, it seems necessary to look at additional factors, other than medical condition, in the CPR decision making process.

Patients' Expressed Wishes

A consideration of the patient's expressed wishes regarding CPR was the third and final criterion for which some consensus was found in the literature. If a patient makes a fully informed decision either to have, or not have, CPR, it was generally felt that this should be respected, even if family members or health care professionals were opposed to the decision (Besdine, 1983; Cushing, 1981; Fowler, 1989; Lo & Jonsen, 1980; Lo & Steinbrook, 1983; Miles et al., 1982; Webb & Amchin, 1990; Winkler, 1988). Boyajian (1988) insists, "Decisions about care, even at the end of life, rest with the patient" (p. 20). Similarly, Cassem (1981) suggests, "The will of the patient, not the health of the patient, [should] be the supreme law" (p. 15). An individual's right to autonomy or self determination is one of the fundamental ethical principles which guides our day to day activities (Wicclair, 1991).

It has been stated that only patients themselves are able to make a judgment about their quality of life or desire to live (Baylis, 1989; Bedell et al., 1983; Brody, 1980; Latimer, 1990; Youngner, 1988). When patients' spouses and their physicians were asked to predict a patient's desired resuscitation status, it was found that, in general, spouses overestimated the patient's desire for resuscitation in each of three scenarios, one being the patient's current state of health (Uhlmann, Pearlman, & Cain, 1988). Physicians also overestimated the patient's desire for resuscitation in his or her current state of health, but underestimated the patient's desire in two other hypothetical scenarios, one in which the diagnosis was chronic lung disease and one in which the patient had suffered a disabling stroke (Uhlmann et al., 1988).

The Law Reform Commission of Canada Report on Euthanasia, Aiding Suicide, and Cessation of Treatment (1983) advocates patients' right to make the final decision about their own care. According to this report "any competent person should have the right to refuse treatment of any kind" (p. 22). The Commission goes on further to say, "Whatever personal reasons motivate a person to accept or refuse a given course of treatment should not be questioned by physicians or courts and the individual's freedom of choice should be universally respected" (p. 22). Failure to heed a person's wishes could result in a charge of assault under the Criminal Code. Unfortunately, we are not always able to ascertain an individual's wishes. An individual may be mentally incompetent, unconscious, or too critically ill to participate in decision making when it is most needed. Therefore, it has been suggested that "healthy older people, as well as acute or chronically ill people near death, need more and better advance directives if they are to enhance their autonomy" (Murphy, 1990, p. 1254). In this study, older adults were asked to express their personal wishes about CPR. Individuals were asked if they believed their wishes should be considered during the CPR decision making process. Participants were also asked if they had discussed their future health care wishes with their physician, family, or lawyer.

Age

The relationship between the age of the patient and the outcome following CPR has been widely studied. Lazzam and McCans (1991), in a Canadian teaching hospital, prospectively studied all CPR attempts in a one year period. They found that those over age 75 were less likely to survive until discharge. Those over 75 had a six percent chance of survival; those under 75 had a 26% chance of living until discharged. A retrospective study by Taffet et al. (1988) of 399 CPR attempts in an all male sample identified a significant relationship between increased age and poorer outcomes following CPR. Murphy and colleagues (1989) retrospectively studied the success rate of CPR in 503 patients. They concluded that "age itself must also be considered as a contributing factor" (p. 204), but did not report statistical significance between the variables of age and success rate. In addition, this study only examined patients over the age of 69, thus no comparison with outcomes of a younger cohort was possible. However, the majority of research in this area over the past two decades has not found age to have an independent effect on CPR survival (Bayer et al., 1985; Bedell et al., 1983; Charlson et al., 1986; Fusgen & Summa, 1978; Gulati et al., 1983; Linn & Yurt, 1970; Murphy et al., 1989). The utility of age as a criterion for withholding CPR on the basis of lower survival rates or decreased health status following CPR is not well supported by research findings.

Despite evidence which suggests that age is not an appropriate criterion for withholding CPR, studies of physicians, nurses, and client surrogates involved in making "No CPR" decisions consistently reported that age was an influential variable. In fact, age was considered one of the most important criteria used during the decision making process (Charlson et al., 1986; Fader et al., 1989; Farber, Bowman, Major, & Green, 1984; Farber et al., 1985; Frampton & Mayewski, 1987; Stewart & Rai, 1989; Uhlmann et al., 1984). In a study by Frampton and Mayewski (1987), age was ranked as the third most important factor in treatment decisions by physicians and was ranked second by nurses. It is unclear why this is so. Perhaps like Callahan (1987), many health care professionals believe that medical care should be limited once a person has reached their natural life span. In several studies health professionals reported that they would have preferred more conservative treatment of older individuals, including the exclusion of CPR (Kaiser, Ringenberg, Moore, & Rosenow, 1988; Wolff et al., 1985). Nurses in particular favoured less aggressive action (Frampton & Mayewski, 1987;

Wolff et al., 1985). However, the general public does not seem willing at this time to place such age restrictions on health care (Farber et al., 1985).

The patient's view, particularly that of the older adult, on the use of age as a criterion to withhold treatment is not well documented. In a small survey of ten patients residing in a nursing home who had chosen not to have CPR, Fader and colleagues (1989) found that age did not play an important role in the patient's decision. In contrast, Fusgen and Summa (1978) asked 18 patients who had previously undergone CPR if they would want to have CPR again if they needed it in the future; those under the age of 60 responded affirmatively. Of those over 60, seven responded negatively, and two did not express an opinion. Both groups stated that they were satisfied with their current quality of life. However, the two groups differed on another variable--fear of death. Six in the under age 60 group reported being afraid of death, while none in the greater than 60 age group feared death. There is a need to further explore the thoughts and feelings of older adults about the appropriateness of using age as a criterion when making end of life health care decisions. Such information would guide physicians and nurses in their discussions about CPR with older adult patients.

Other Criteria

To assist in the decision making process, several other criteria have been suggested as influential or important by older adult patients. In a survey of 10 nursing home patients who requested a "No CPR" order, Fader et al. (1989) reported that 50% of this sample stated that their religious beliefs had influenced their choice. In this same group, neither money, age, fear of pain, burden to family, or severity of physical disability were considered important factors in the decision making process. In a larger study of 75 elderly outpatients, 13% reported that religion influenced their decision about CPR (Shmerling et al., 1988). Persons with a terminal illness, a group of patients for whom "No CPR" orders have been deemed ethically appropriate, have been found to exhibit greater levels of religiousness (Reed, 1986). This information suggests that religiousity may play a part in influencing some patients' choices about CPR.

The factors which do, and do not, influence a nurse's or physician's decision about CPR for a particular patient have also been studied. Uhlmann et al. (1984) retrospectively compared 37 no code nonsurvivors with 20 CPR nonsurvivors on a number of variables. Those variables which were found to be correlated with a "No CPR" decision were incontinence, marital status, and advanced age. When 40 nurses and 63 medical residents were asked by Farber et al. (1985) to make a choice between initiating CPR or withholding CPR for patients in a number of clinical vignettes, several factors that influenced their decision were noted. For both groups, a diagnosis of carcinoma, drug abuse, mental retardation, dementia, multiple suicide attempts, age, a violent criminal record, and a lack of known support systems all decreased the likelihood that CPR would be performed. The two groups differed on the variable of institutionalization. This variable did not affect nurses' decisions, but physicians were less likely to administer CPR if the patient had previously been institutionalized. Frampton and Mayewski (1987) reported that the physicians and nurses in their study believed that the financial burden placed on the patient and society and patient discomfort were not important criteria to be considered in the decision to withhold CPR. "No CPR" orders in nursing home patients have also been found to be associated with increased age, increased length of time since admission, a need for skilled care, and with the presence of a surrogate decision maker, with age being the strongest predictor (Meyers, Lurie, Breitenbucher, & Waring, 1990). There is a need for further research to confirm or refute the appropriateness of these additional criteria, particularly from the point of view of the older adult patient.

The Decision Making Process

Patients, physicians, nurses, and families are all affected in different ways by "No CPR" decisions. The patient is the person most directly affected. The physician, who is responsible for writing the "No CPR" order, must be willing to face the legal and moral consequences of the decision. The nurse is most often the person who implements the "No CPR" order. Any doubts or concerns about the appropriateness of the order must be dealt with immediately. Families are facing the potential loss of an individual member. As each of these groups has a vested interest in the "No CPR" decision, each should be content with the final decision. The roles of each of these groups will be discussed individually.

The Competent Patient's Role

As was previously stated, if patients express an opinion regarding CPR for themselves, in general, most agree that this wish should be respected. However, there is much less agreement about the issue of whether or not the patient has to be, or should always be, involved in the CPR decision making process. The debate is framed as a contrast between the ethical principle of autonomy and the traditional medical attitude of paternalism (Mason & McCall-Smith, 1987). If a patient has a very poor prognosis and is unlikely to be successfully resuscitated, it has been argued that the physician need not present the option of CPR to the patient (Buckman & Senn, 1989; Murphy, 1988; Tomlinson & Brody, 1988). Others have claimed that such a discussion may, in fact, be detrimental or confusing to the patient (Farber et al., 1984; Schade & Muslin, 1989). Some of those physicians interviewed by Bedell and Delbanco (1984) indicated that discussing CPR with patients and their families would be threatening and guilt provoking. It has also been suggested that the inability of the patient to comprehend the details and implications of a "No CPR" order may result in inappropriate decisions and that the discussion of CPR itself may induce an adverse psychological effect on the patient (Farber et al., 1984; Murphy, 1988; Schade & Muslin, 1989).

The opinion has also been voiced that older adults who have grown up in a more paternalistic society may not want to be responsible for making such decisions, and may want to delegate the responsibility for decision making to their physicians. Cross and Churchill (1982) refer to this as paternalism with permission. In a Canadian study, Vertinsky, Thompson, and Uyeno (1974) found that when compared to younger cohorts, older adults had less desire to be involved in treatment decisions. A greater length of hospitalization was also related to a desire for less participation. Whether this continues to be true of older adults today, is not known. Additionally, it is not known if a desire for participation is affected by the type of institution (i.e., acute or long-term) in which the older adult is hospitalized.

Many advantages of patient participation in the CPR decision making process have been suggested. These include offering patients some control over their own care, increased compliance with care plans, improved communication between health care professionals and patients, increased self esteem of patients, and the provision of an opportunity for patients to voice their fears and concerns (Bell, 1984; Brody, 1980; Havlir et al., 1989; Lo & Steinbrook, 1983; Paulus, 1987; Quintana et al., 1991; Roy, 1988; Veatch, 1985). Such discussions allow physicians the opportunity to convey to the patient information about his or her medical condition and prognosis. Most elderly patients (87%) in a study by Shmerling et al. (1988) indicated that CPR should be routinely discussed with patients. The majority (84%) believed that the outcome of these discussions should be documented in their medical records.

Several reseachers who independently surveyed health care professionals (physicians and nurses) regarding their attitudes about patient autonomy with respect to CPR decisions reached similar conclusions--most health care professionals belived that patients should be involved in the CPR decision making process (Bedell & Delbanco, 1984; Kaiser et al., 1988; Perry, Schwartz, & Amchin, 1986). However, despite this belief, past research has shown that only about 20% of patients are actually consulted in the CPR decision making process (Bedell & Delbanco, 1984; Bedell et al., 1986; Berlowitz, Wilking, & Moskowitz, 1991; Evans & Brody, 1985). Through chart review, Lipton (1989) found that "in almost 30% of the cases for which documentation was provided in the medical record, fully alert and oriented patients were not involved in the DNR decision" (p. 111). In a survey of 143 medical professionals by Perry et al. (1986), the majority of respondents indicated that they would want to be aware of their resuscitation status if they were a patient. The majority of these health care professionals also stated that only between zero and 25% of their own patients knew their resuscitation status. Such discrepancies between beliefs and behaviour have not been adequately explained.

One factor which may contribute to the low patient involvement reported by researchers is the late timing of the CPR decision making process. Quite often it is initiated at a point in the patient's illness when the patient has deteriorated significantly and is physically or mentally no longer able to participate fully in a meaningful discussion. In a study by Bedell et al. (1986), it was reported that by the time decision making about CPR had begun 76% of those patients surveyed had an abnormal mental status. On admission 89% of these same individuals had normal mental functioning. It is difficult to determine why discussions did not occur earlier in these patients' hospitalizations.

The CPR decision making process with respect to incompetent patients involves additional considerations and raises further complex questions. A discussion of the issues related to health care decision making for incompetent patients was beyond the scope of this study and therefore is not addressed.

The Physician's Role

The primary role identified in the literature for the physician with respect to CPR decision making is the assessment of the patient's medical condition and prognosis (Cushing, 1981; Miles et al., 1982). Many authors have argued that the physician has an obligation to communicate information about the patient's medical status to the patient in a sensitive and thoughtful manner (Grandstrom, 1987; Lo & Jonsen, 1980; Lo & Steinbrook, 1983; Miles et al., 1982; Rozovsky & Rozovsky, 1990; Schneiderman & Arras, 1985; Stephens, 1986). Such a discussion would typically include a description of CPR as one option available to the patient and would explain CPR and its outcomes in realistic and patient specific terms. Some would argue that the role of CPR decision maker belongs solely to the physician (Farber et al., 1984; Murphy, 1988; Thom, 1988). Farber and associates (1984) clearly state that they believe "the physician is responsible for the ultimate decision of whether expensive technology should be used to attempt to save a patient's life" (p. 2229). In most hospital settings, it is also the physician who is responsible for writing the "No CPR" order on the patient's chart.

The Nurse's Role

Nurses may also have important roles to play in the CPR decision making process. One of the central roles is that of patient advocate. This may involve honouring patients' wishes to limit treatment, encouraging physicians to speak with their patients about CPR, taking part in CPR policy developing committees, and clarifying vague and unethical orders ("A special Nursing Life Poll", 1982; Barr, 1987; Bedell et al., 1986; Dolan, 1988; Ellis, 1987; Kennedy, 1985; Maltz, 1991; Merkel, 1985; Miya, 1984). As nurses spend a great deal of time with patients in the acute care and long-term care settings, they may be better equipped to make assessments regarding the patient's quality of life and desired level of care and should, therefore, be involved in discussions of CPR with the physician and patient ("A special Nursing Life Poll", 1982; Fulmer, 1981; Maltz, 1991; Packa, 1989). Nurses also need to be able to clarify and reinforce the information provided by the physician and to assess the responses of the patient and family to that information (Bedell et al., 1986; Grandstrom, 1987). Finally, if a decision has been made in which CPR is to be given, nurses need to be able to provide this service adequately and promptly (Seidelin, McMurray, Stolarek, & Robertson, 1989) according to accepted standards which include yearly certification (American Heart Association, 1980).

Nurses have recognized their roles and have expressed a desire to be involved in the CPR decision making process (Bedell et al., 1986; Kaiser et al., 1988). More than 90% of nurses surveyed by Honan et al. (1991) believed that physicians should seek their input regarding a patient's resuscitation status. Unfortunately, several studies have shown that the input and participation of nurses in the CPR decision making process is not often sought. Bedell et al. (1986) reported that in only 10% of documented "No CPR" decisions was nursing involvement recorded. Only 10.6% of nurses indicated that they were always informed when physicians had discussed resuscitation with patients or their families (Honan et al., 1991). Few reseachers have examined whether or not older adults support or desire the participation of nurses in the CPR decision making process, and in what capacity they would want them involved. Ebell et al. (1991) did find that patients rated the importance of nurses in assisting in the CPR decision making process as 3.5 out of a possible 5. Physicians rated the relevance of nurses' involvement slightly lower at 3.2. Spouses, physicians, and children received higher scores than nurses from patients.

The Family's Role

Families are often involved in the CPR decision making process (Bedell et al., 1986; Evans & Brody, 1985; Lipton, 1989). Indeed, they are more likely to be involved than the patient, even when the patient is deemed competent. In a review of 72 discussions about CPR, on 13 occasions a competent patient was bypassed and the family's decision regarding CPR was sought (Evans & Brody, 1985). Lipton (1989) reported that families were identified as surrogate decision makers in 62% (112 of 184) of documented "No CPR" decisions at a community hospital. In 54 (48%) of these 112 cases, patients preferences were not described even though they were considered mentally competent at the time. Bedell et al. (1986) identified four factors that influenced families to pursue "No CPR" orders; they included: the presence of coma or brain death, physician and nurse support of the decision, assurance of ongoing care, and a family's prior discussion with the patient about resuscitation.

There are several reported benefits to involving family members in the CPR decision making process. For example, it is argued that families will be better equipped to provide emotional support to patients if they are well aware of the patient's condition and treatment plans (Miles et al., 1982; Miles & Ryden, 1985). Havlir et al. (1989) wrote that discussing CPR with families helped them to accept their loved one's death and opened the door for improved communication between patients and their families.

Although many would agree that families should be involved in the CPR decision making process, it has been suggested that they should not have the ultimate CPR decision making power. For example, many argue that family members, including spouses, cannot accurately predict the desired resuscitation status of their family members (Murphy, 1988;

Quintana et al., 1991; Schneiderman & Arras, 1985; Ulhmann et al., 1987). Ulhmann and associates (1988) found that spouses overestimated patients' desired resuscitation status in three scenarios--in their current health, with a debilitating stroke, and with a chronic lung disease. Alternatively, Cassem (1981) based on his own personal experiences concluded that when he "compared patients' attitudes to those of family members and others a little farther removed, it has been the latter who wanted the patients to die, whereas the patients themselves were much more likely to want to live longer" (p. 14).

In addition to reaching inaccurate decisions, placing the decision making power in the hands of families may create other problems. Family members may disagree on the course of action to be taken (Bedell et al., 1986; Molloy, Clarnette, Brown, Eisemann, & Sneiderman, 1991). Making a life and death decision about a loved one may invoke unnecessary guilt for the family (Bedell & Delbanco, 1984; Murphy, 1988; Webb & Amchin, 1990). As well, family members may have ulterior motives which may not serve the best interests of the patient (Lo & Steinbrook, 1983; Miles et al., 1982; Schneiderman & Arras, 1985; Webb & Amchin, 1990). Finally, some families may not be able to understand the implications of withholding CPR (Murphy, 1988). Generally, the role of the family as CPR decision maker is not well supported in the literature. However, other roles the family may play in the CPR decision making process are not well defined in practice or in policy (Cushing, 1981; Miles & Ryden, 1985).

The Role of Others

Little is reported about the roles of other people, professionals and non-professionals, in the CPR decision making process. Miles and Ryden (1985) surveyed the protocols for limiting treatment in a number of long-term care facilities in the United States. In 30% of the policies, social workers were identified as participants in the CPR decision making process, in 25% clergy were consulted, and in 5% ethics committees were involved. No similar studies for acute care hospitals were found. The role that significant others or friends may play in the decision making process is not well documented.

The Collaborative Role

A number of studies support the idea of collaboration between physicians, patients, and families in the CPR decision making process. The elderly outpatients interviewed in a study by Shmerling et al. (1988) stated that collaboration between health care professionals, patients, and their families was optimal. When asked who should decide about CPR, 64% believed it should be a combination of the patient, the physician, and family members. The option of adding nurses to the decision making team was not provided. In a long-term care setting, Enderlin and Wilhite (1991) found that 45% of "No CPR" orders were made by a combination of the resident, family, and physician. Here again the role of nurses was not acknowledged or addressed. Studies by Kaiser et al. (1988) and Ebell et al. (1991) reached similar conclusions. The health care professionals and patients surveyed all indicated that patients and/or their families and physicians should be involved in "No CPR" decisions. Nurses who took part in the Kaiser et al. (1988) study indicated that they believed they should play a greater role in the CPR decision making process.

Quintana et al. (1991) in their interviews with patients about CPR, involved both physicians and nurses in the process. They conclude that this collaboration was essential as it "increases the probability of successful interview and decreases the probability of misunderstandings" (p. 32). Graham and Livesley (1983) also believe that communication between medical and nursing staff is required in order to make appropriate treatment decisions. Several others have identified the valuable input of nurses, social workers, and clergy during the decision making process (Miles et al., 1982; Latimer, 1989). Nolan (1987) suggests there may be a larger role for psychological or spiritual counselling throughout the CPR decision making process. "There is, perhaps, no better example of the need for collaboration among patient, family, nurse and physician than the comprehensive planning...for CPR" (Quintana et al., 1991, p. 32).

CPR Policies

It has been stated that one of the fundamental goals of a "No CPR" protocol is to provide patients with an opportunity to take part in decisions which affect their life and death (Bedell et al., 1986). In an effort to provide guidelines for making resuscitation decisions the Canadian Nurses Association, the Canadian Medical Association, and the Canadian Hospital Association prepared a joint statement on this issue in 1984 entitled Joint Statement on Terminal Illness. This policy most clearly applies to persons with a terminal illness, and does not address the issues of age and chronic illness. Many hospitals and other health care facilities have developed policies and procedures for their own institutions based on this document. The development, content, and usefulness of these policies varies widely and have been described elsewhere in detail by several authors (Davila, Boisaubin, & Sears, 1986; Levinson, Shepard, Dunn, & Parker, 1987; McPhail, Moore, O'Connor, & Woodward, 1981; Miles & Ryden, 1985; Uhlmann et al., 1987).

In several studies, despite policies being in place, chart reviews indicated that institutional policies were often not followed (Bedell et al., 1986; Lipton, 1989; Youngner et al., 1985). A study by Honan et al. (1991) reported that 72.6% of nurses surveyed did not know if their hospital had a resuscitation policy. As stated earlier, another identified problem was that few patients were involved in the decision making process. Some authors have argued that such policies may be appropriate for acute care centres, but not particularly helpful in long-term care settings (Besdine, 1983; Fisher, 1989). Although the policies now in effect have perhaps reduced some dilemmas, many have persisted. It would appear that the policies have been formulated with good intentions, but with little research input to support their recommendations. Further information from the patient's perspective in the acute care and long-term care settings may help to guide future policy development.

Summary

The topic of older adults and their beliefs regarding cardiopulmonary resuscitation is clearly one which has many unanswered questions. In this chapter, a number of reasons why a study of older adults' perspectives on the subject of CPR would be worthwhile were presented. The high incidence of CPR among this population, the growing proportion of older adults in Canada, limited health care resources, and the societal value of autonomy were among the rationales discussed.

What little is known about the knowledge level of older adults regarding CPR and their attitude toward resuscitation for themselves was addressed. Factors identified in the literature as important when contemplating a decision about CPR including quality of life, medical condition, and an individual's wishes were discussed. The arguments of both sides in the ongoing debate surrounding the use of age as a criterion for withholding treatment were summarized.

The current and potential roles of physicians, nurses patients, and families in the CPR decision making process were addressed. Traditionally, physicians have been the designated decision makers in most health care situations. There does, however, seem to be a trend toward increased patient involvement in these decisions which is supported by both the legal system and society at large. The nurse's actual role in the CPR decision making process has not been well documented. Surrogate decision making by family members was discussed. Finally, a brief comment about current CPR policies was presented.

CHAPTER 3: RESEARCH DESIGN AND METHODS

An exploratory descriptive design was utilized in this study in order to determine the knowledge, opinions and attitudes of older adults in long-term care and acute care settings toward cardiopulmonary resuscitation (CPR). As little was known, or had been reported about the older adult's comprehension or views about CPR, this design was considered appropriate (Brink & Wood, 1988).

Setting and Sample Selection

The target population consisted of older adults in acute and long-term care settings, who were 65 years of age or older, physically stable, competent, and able to converse in English. The accessible population was comprised of all persons who were patients in a large Canadian acute care teaching hospital and its two affiliated long-term care institutions who became 65 years of age or older in 1991. Patients in critical care areas, such as coronary care and intensive care units, were excluded because the researcher assumed that the majority of these patients would be physically unstable, and would likely be unable to participate in an interview. Those patients on psychiatric units were also excluded, as the effect of a discussion about CPR and death with a suicidal or depressed patient was unknown and potentially detrimental (Webb & Amchin, 1990), perhaps resulting in unreliable data. In addition, those persons with other types of mental illness were excluded, particularly those patients who were disoriented.

Both of the long-term care institutions accessed in this study were in close physical proximity to the acute care centre and all followed the same policy with respect to CPR. This policy provides general guidelines for making a decision not to resuscitate. These include consulting the competent patient before a decision is made about CPR and an order is written. One of the long-term care settings, a veterans' centre, had an all male patient population at the time of the study.

On three consecutive Mondays in July, 1991, 10 patients in the acute care setting were randomly selected from a list of all those patients currently hospitalized in the acute care setting who would be 65 years or older in the current calendar year. Similarly, 10 patients who were in the long-term care settings were randomly selected from a list of all patients who would reach 65 years of age or older in the current calendar year.

Patients meeting the additional study criteria, which included the ability to converse in English, mental competence, and physical stability, as determined by the clinical supervisor or nurse caring for the patient, were identified. Competency was based on the clinical supervisor or nurse's assessment of the patient's ability to give an informed consent. If the clinical supervisor or nurse caring for the patient believed that the patient was able to complete a one hour interview without any adverse physiological effects, they were considered physically stable. A patient's ability to converse in English was identified by the clinical supervisor or nursing staff. Any patients who met the study criteria were asked by a nursing staff member if they would be willing to meet with the researcher. The researcher then explained the study, sought the participation of the individual, and obtained consent if the patient was willing (see Appendix A). Patients who did not wish to participate, or who did not meet the additional study criteria were replaced in a similar manner. To obtain sufficient numbers for analysis, a sample size of 60 persons was sought, 30 in the acute care setting and 30 in the long-term care setting. Due to time constraints and interview scheduling difficulties, the researcher was unable to complete all 60 interviews during July. Therefore, the procedure for obtaining subjects was repeated during one week in September, 1991.

Description of Sample

The total accessible population, those who would attain 65 years of age or older in 1991, in the long-term care settings ranged weekly from 105 to 191 persons. In order to obtain 30 persons who met the study criteria and who wished to participate in the study it was necessary to randomly select 113 individuals over a four week period. Seventy of these persons did not meet one or more of the study criteria (most often individuals were identified as incompetent). Nine persons who fit the study criteria did not wish to take part in the study. Three persons selected were on leaves of absence from the long-term care institutions and thus were not available for an interview. One person was determined to be not available for contact following three attempts.

The total accessible population in the acute care setting ranged from 126 to 165 persons weekly during the four week period of data collection. To obtain 30 persons who met the study criteria and who wished to participate in the study necessitated the random selection of 87 individuals. Thirty three individuals of those selected did not meet one or more of the study criteria. Again, most often the criteria that was not met was that of competence. Six persons did not wish to participate in the study. Seventeen persons were discharged before an interview could be arranged. One person died before an interview could be scheduled.

Demographic characteristics between the acute care and long-term care settings were compared using Chi Square and t-tests (see Table 1). Males accounted for 70.0% of the sample; females accounted for 30.0%. This gender split was reflective of the all male population in one of the two long-term care institutions involved in the study. In the acute care setting 14 people in the sample were male; 16 were female. In the long-term care setting 28 people in the sample were male; two were female. Gender was signficantly different between the two settings (p<.01). The average age of participants was 73.1 years with a minimum of 65 years and a maximum of 93 years. There was no significant difference in age between the two settings.

The average educational level was 11.1 years with a range of no formal education at all to 21 years of formal education. Those in the long-term care setting had completed, on average, approximately two years less education. This difference was statistically significant. The average length of hospitalization varied widely from a low of 2 days to a high of 4200 days. The average length of stay was 444.85 days for the entire group. In the acute care setting, the average length of stay was just over ten days; in the long-term care setting the average length of hospitalization was over two years. This again was statistically significant. Approximately one half (43.3%) of the participants were married (or equivalent), 10.0% were single, 28.3% were widowed, and 18.3% were divorced or separated. There were not sufficient numbers to compare the two settings on the variable of marital status. The number of children that the subjects had ranged from 0 to 11 with an average of 2.93. There was no significant difference on this variable between settings.

Participants perceived their health status during the previous year as follows: "not good at all" by 6.7%; "fair, not too good" by 46.7%; "good" by 23.3%; "very good" by 21.7%;

Table 1

Demographic Characteristics by Setting

Variable	Acute care (mean)	Long-term care (mean)	P value
Education	12.2	9.9	*p=.041
Number of children	3.03	3.03	p=1.00
Functional status	0.9	2.1	*p=.015
Current quality of life	7.0	6.3	p=.174
Quality of life last year	7.1	6.3	p=.116
Quality of life next year	7.5	6.3	p=.055
Quality of life best year	9.21	9.24	p=.894
Age	71.9	73.9	p=.179
Length in days of hospitalization	10.3	764.7	**p=.000
Number of medical conditions	2.6	3.7	**p=.002

Note. *indicates significance at p<.05.

**indicates significance at p<.01.

and "perfect" by 1.7%. There were not sufficient numbers to compare the acute care setting and long-term care setting on this variable. The average number of medical conditions per participant was 3.1. Those in long-term care had significantly more medical conditions (3.7) than those in acute care (2.6). Participants were classified into one of three categories based on diagnosis: (a) they had a terminal condition, defined for the purposes of this study as an illness considered both incurable and fatal, (may also have had chronic or acute conditions concurrently); (b) a chronic condition (may also have had an acute condition); or (c) the only diagnosis was an acute medical condition. Ninety percent fell into the category of having a chronic condition; 3.3% had a terminal condition; and 6.7% suffered from an acute, non-life threatening condition. There were not sufficient numbers to compare the two settings on this variable. Eight of the 60 participants had a "No CPR" order currently on their chart. All of these individuals were in the long-term care setting.

Functional status as determined by The Index of Independence in Activities of Daily Living (Katz & Akpom, 1976) varied from 0 to 6 with a mean of 1.5. Twenty-nine of the 60 persons interviewed had a functional status of 0 (0=highest level of independence). The functional status of those in long-term care was significantly lower than those in acute care (see Table 1).

When asked if they were a religious person 63.3%

responded positively; 36.7% answered negatively. A belief in a life after death was reported by 43.3%. Approximately one third (31.7%) did not think there was a life after death. A further 25.0% were undecided. There were no significant differences between the acute and long-term care settings on the variables of religiosity or belief in a life after death.

Respondents were also asked to evaluate their quality of life at four times in their lives--currently, in the previous year, in the upcoming year, and in the best year of their life. The results are summarized in Table 2. Using t-tests, there was no significant difference between current quality of life, quality of life in the previous year, and quality of life in the best year between the acute care and long-term care sample. Quality of life in the upcoming year approached significance at p=0.06. Those in the acute care setting rated their quality of life in the upcoming year on average as 7.5 while those in long-term care averaged 6.3 out of a possible high of 10.

Method of Data Collection

To collect the data, a structured interview format with both open-ended and closed questions was utilized. Reasons for using the interview method included its flexibility, the opportunity to provide clarification for respondents, a better response rate than written questionnaires, and the opportunity

Table 2

Quality of Life of Older Adults

Value	Now	Last year	Next year	Best year
0	1	1	1	0
1	1	0	2	0
2	0	0	0	0
3	1	2	2	0
4	3	4	2	0
5	12	11	7	0
6	10	9	8	1
7	9	9	9	1
8	13	12	12	13
9	5	7	10	13
10	5	5	6	31
Missing	0	0	1	1
Mean	6.63	6.72	6.92	9.22
Standard Deviation	2.08	2.06	2.32	.97

Note. Using Cantril's Self Anchoring Striving Scale (Cantril, 1965) a score of 0 indicates the worst possible life imaginable and a score of 10 represents the best possible life imaginable. The higher the value, the greater quality of life.

to observe non-verbal behaviours. With an older population, visual problems limited the feasibility of a pencil and paper questionnaire. Due to the nature of the questions and potential sensitivity of the topic of CPR, it was felt that a personal interview would result in more reliable information than a written questionnaire. A potential drawback to the interview technique was the concern that respondents might have difficulty expressing their thoughts to the researcher.

Potential study participants were approached by the nurse who was caring for them. This nurse asked the patients if they would be willing to meet with the nurse researcher to allow her to explain her study and to request their participation. If the individual responded affirmatively, the nurse researcher was introduced by the staff member, briefly described the study, and a convenient time was arranged for an interview of approximately one hour's length. Interviews took place in the patient's room if private, or in an alternate quiet room at the facility in order to reduce the possibility of interruptions and maintain the individual's privacy.

Prior to the initiation of the interview, the study's purpose was again explained and informed consent obtained (see Appendix A). A copy of the consent form which outlined the study was left with each respondent at this time. An information form about the study was placed at the front of each patient's chart to alert health care professionals to the patient's recent participation in the study (see Appendix B).

Each question was read to the participant and clarified by restating or explaining terms if necessary. For several questions (e.g. -- question 9 and 10, Appendix C) in which respondents could answer one of several options, these options were typed in large print on a card for the respondent's use.

A tape recorder was used during the interviews to ensure accurate collection of data. Two individuals did not wish to be taped, so their responses were hand written. The researcher also made brief written notes of pertinent contextual information, such as the respondent's non-verbal behaviours, throughout the interview. To reduce the influence of potential memory impairments among older adults and to ensure accuracy and completeness of demographic information, the patients' charts were utilized as a source of validating or attaining factual data when appropriate (e.g., age and medical conditions). This also reduced the length of time required for the interviews.

Instruments

As no suitable instrument for the attainment of older adults' knowledge, opinions, and attitudes about CPR was available, the researcher developed an interview schedule (see Appendix C). Relevant information from the literature and consultation with other health care professionals was used as the basis for the development of appropriate questions. Drafts of the questionnaire were reviewed informally by several nurses and physicians currently working with older adults and by several nurses currently enrolled in Master of Nursing programs. A formal evaluation of the questionnaire was completed by four persons with expertise in gerontology or ethics.

Two tools which have been used in previous research were incorporated into the interview schedule. The Index of Independence in Activities of Daily Living (see Appendix C) was designed to assess an individual's functional status (Katz & Akpom, 1976; Katz, Ford, Moskowitz, Jackson, & Jaffe, 1963). This instrument has been used widely both clinically and in research activities with a number of populations including institutionalized older adults. No formal reliability analyses have been reported in the literature. It is considered to have adequate content and predictive validity (Frank-Stromborg, 1988; Katz & Akpom, 1976). It is both simple and quick to administer (Frank-Stromborg, 1988).

Cantril's Self-Anchoring Striving Scale (Cantril, 1965) was used to measure the patient's quality of life (see Appendix C). This tool requires patients to place themselves somewhere on a ladder, with the top rung being the best possible life imaginable, and the lowest rung being the worst possible at four different times in their lives--the present, one year in the past, one year in the future, and in the best year of their lives. Content and face validity have been established for this tool (Frank-Stromborg, 1988). The stability reliability for this measure was reported to be 0.79 with a small sample of patients with end stage renal disease (Molzahn, 1989). Because of the evolving and changing nature of the concept of quality of life, reliability issues, in the traditional sense, are not applicable. The tool has been used with thousands of persons of varied ages and ethnicity (Cantril, 1965).

The question regarding health status during the previous year has also been used in the past. Patients were asked to rate their health during the previous year from one to five with one representing "not good at all" and five representing "perfect, couldn't be better." Test-retest reliability for this question was reported at 79% (Starr et al., 1986). This question has been used with an older hospitalized population (Starr et al., 1986).

The interview schedule began with a very general open-ended question which asked respondents to tell the researcher what they currently knew about CPR. The subsequent questions focused on where they had received their information. As well, they were asked to suggest what they thought would be the outcome of CPR for several different age groups and for themselves. As it was assumed that the respondents would have varied levels of knowledge about CPR, a short description of what CPR consists of, when it would be used, and possible outcomes following CPR was presented to each individual. No information about the likely outcome for specific individuals was given. The experts who evaluated the interview schedule reviewed this description. Following several revisions, they agreed that it was objectively presented and sufficient in detail to allow older individuals to make statements about their attitudes and opinions toward CPR.

Following this description of CPR, respondents were asked if given their current situation, they themselves would want to receive CPR. They were also asked to consider a number of factors which might influence decisions about CPR and to rate them on a scale of not at all important to very important. They were additionally asked who they felt should be involved in making a decision about CPR. Demographic information and information about their current quality of life, functional status, and health were collected at the end of the interview.

Two older adults from the accessible population were selected by convenience sampling and asked to pretest the interview guide and recording equipment function. Revisions to improve clarity, flow, and quality of data collected were made as necessary. Both interviews were completed within the one hour time frame established, thus it was not necessary to delete any questions.

Validity and Reliability

Face validity was determined by having four colleagues with expertise in gerontology or ethical issues evaluate the instrument. Three of these individuals had nursing backgrounds; one was a social worker. These experts were asked to evaluate the instrument in terms of adequacy of content, format, and language use (see Appendix D). An agreement of 75% amongst these experts was required for each item to be included. As previous literature served as the basis for questionnaire development, content validity was further enhanced. Respondents were informed at the beginning of the interview that there were no right or wrong answers and that it was their own viewpoint and ideas that were important. This was done to reduce the threat of a socially desirable response set.

Respondents were classified into one of four knowledge level categories based on their response to an open-ended question asking them to describe what they knew or had heard about CPR. The transcripts of the open-ended question concerning knowledge level of the first three respondents and every tenth respondent (for a total of 8) were reviewed by a research assistant who had knowledge of the study. The classification of respondents by the investigator and the research assistant were compared to establish equivalence and assess interrater reliability. An agreement of 75 percent was found. Upon further discussion and clarification between the researcher and research assistant 100 percent agreement was achieved. Three interviews were randomly selected at a later date, reviewed and analyzed by the researcher and classifications reassigned. These classifications were compared to those initially drawn by the researcher in order to assess intrarater reliability or equivalence. One hundred percent agreement was found.

Data Analysis

The first step in data analysis involved content analysis of the open-ended questions contained in the interview. Following the determination of mutually exclusive data categories, descriptive summaries were completed. This data was at a nominal or ordinal level. This information, along with descriptive information of the sample's demographic characteristics, including measures of central tendency and variation was summarized in graphs and tables. T-tests were used to compare interval level variables between the acute care and long-term care population. Chi square analysis was used to compare the acute care and long-term care settings on nominal level variables. Chi square and Pearson's correlation tests of association were utilized to examine statistical relationships between sample characteristics and data categories.

Protection of Human Rights

Elderly people, particularly those who are institutionalized, have been identified as a group that is at risk for exploitation by researchers. As such, special attention must be paid to ethical considerations when conducting research with this age group (Davis, 1981). This study strove to protect the rights of older individuals at all times. The researcher believes strongly that older adults have much to offer and can provide health care professionals with worthwhile insights into their concerns, needs, and desires.

Following ethical clearance by the Faculty of Nursing and the selected institutions, a letter of introduction (see Appendices E and F) was sent to the Nurse Managers of each unit and to physicians who admit to these units. The researcher attended a meeting of Nurse Managers in each facility to discuss the study and address any concerns they might have about the study. One group of physicians requested a meeting to discuss the research project in further detail, as did one individual physician.

Potential respondents were approached by a staff member at the respective institution, who then introduced the researcher to them if respondents were agreeable. An outline of the study, including risks and benefits, and the expectations of the respondents was discussed verbally with each respondent. An opportunity for the potential respondent to ask questions was provided. An informed consent from each participant was obtained (see Appendix A). A copy of the consent form including how to contact the researcher was given to each respondent. Patients were told that their participation was voluntary and would not affect their care.

They were also informed of their right to withdraw from the study at any time.

If subjects did not wish to be taped, written responses were recorded during the interview. Only the researcher, research assistant, and research committee had access to the tapes and written responses. Both were kept in a locked cabinet in a locked room. The tapes identified respondents by number only. The list of respondents' names was destroyed after the study was completed. In any reports of the findings, no names or any identifying personal characteristics are included. The institutions involved in the study will have access only to the summarized results, not the raw data.

The potential risk for persons participating in this study was that a discussion about resuscitation may result in heightened anxiety, psychological distress, or misunderstandings about prognosis and care in certain individuals (Farber et al., 1984; Schade & Muslin, 1989). However, most of the literature suggests that when the topic of resuscitation is discussed thoughtfully and with tact, this risk is minimal, and that such a discussion has a greater potential for benefit than harm (Bell, 1984; Bedell & Delbanco, 1986; Havlir et al., 1989; Lo & Steinbrook, 1983; Murphy, 1988; Paulus, 1987; Quintana et al., 1991). It was stressed to study participants that their name had been chosen randomly and that prior to being introduced to them the researcher knew nothing about them except their name and age.

It was also reinforced that in no way would their participation affect their care. Specifically, discussing resuscitation has been found to: open the lines of communication between health care professionals, patients and their families; relieve fears; and allow patients to maintain some control over their lives (Bedell & Delbanco, 1986; Bell, 1984; Havlir et al., 1989; Murphy, 1988; Quintana et al., 1991). It was arranged so that should the respondent become emotionally distressed, the nurse caring for the patient would be notified immediately.

Only one of the 60 individuals interviewed verbalized a feeling of discomfort following the interview stating "I don't like to talk about dying--it's too depressing". The nurse caring for the patient was notified of this patient's response. No other signs of distress were noted. Should patients have become emotionally distressed the services of pastoral care, psychiatric counselling, and social workers were all available within the research settings.

Several respondents indicated a distinct preference regarding cardiopulmonary resuscitation. These individuals were informed of the hospital's policy to resuscitate all patients who did not have a "No CPR" order written on their chart and were strongly encouraged to discuss their wishes with their attending physician. The researcher did not inform the physician or nurses caring for the respondent of his or her wishes as this would have violated the confidentiality of the subject's responses.

None of the respondents requested further information regarding resuscitation or advance directives. If they had, they would have been referred to their physician or lawyer, and/or the Dying with Dignity organization or Society for the Right to Die.

Summary

In this chapter the methods employed in this descriptive, exploratory study have been described. The acute care and long-term care settings utilized in this study were described. The sample was randomly drawn over a four week period and is described in detail, including a comparison of demographic variables within the acute care and long-term care samples. Data was collected using a structured interview. The interview schedule was developed by the researcher and evaluated by four experts in the fields of gerontology and ethics. Validity and reliability issues were addressed. The procedure for data analysis of the open questions contained in the instrument included content analysis and development of mutually exclusive categories. Closed questions were analyzed using descriptive statistics. Chi square was used to look at relationships between non-interval level variables. Pearson's correlation was used to observe relationships between interval level variables. The chapter concludes with a description of the measures taken to protect the human rights of participants. These included: Participants were approached by a staff member rather than by the researcher; participants completed an informed consent; participants had the opportunity to withdraw from the study at any time; participants were interviewed privately; and support services such as psychology, pastoral care, and social work were available in each setting.

CHAPTER 4: RESULTS

This study proposed to answer six questions about older adults' knowledge, attitudes, and opinions toward cardiopulmonary resuscitation. The results section has been organized according to these six questions.

Older Adults' Knowledge Regarding CPR

At the outset of the interview, respondents were asked in an open-ended question to tell the researcher what they knew about the procedure of CPR. Responses were classified into four groups based on the criteria outlined in Table 3. Fourteen people (23.3%) were considered to have no knowledge; 28 (46.7%) were considered to have a little knowledge, and 18 (30.0%) verbalized some knowledge. None were considered to have quite a bit of knowledge. Eight individuals in the study had undergone CPR at some time in the past. Of these eight individuals, five had a little knowledge about CPR, two had some knowledge, and one had no knowledge. The numbers were not large enough to test the significance of the relationship between knowledge of CPR and the experience of having undergone CPR in the past. Over half of this sample (56.7%) had observed CPR being performed. Of these people 73.5% indicated that they had seen CPR on television. The remainder had observed CPR performed in the hospital or community setting. Of those who had seen CPR, over 75% indicated that

Table 3

Criteria for Classifying Responses to Question:

Could you tell me what you know about CPR?

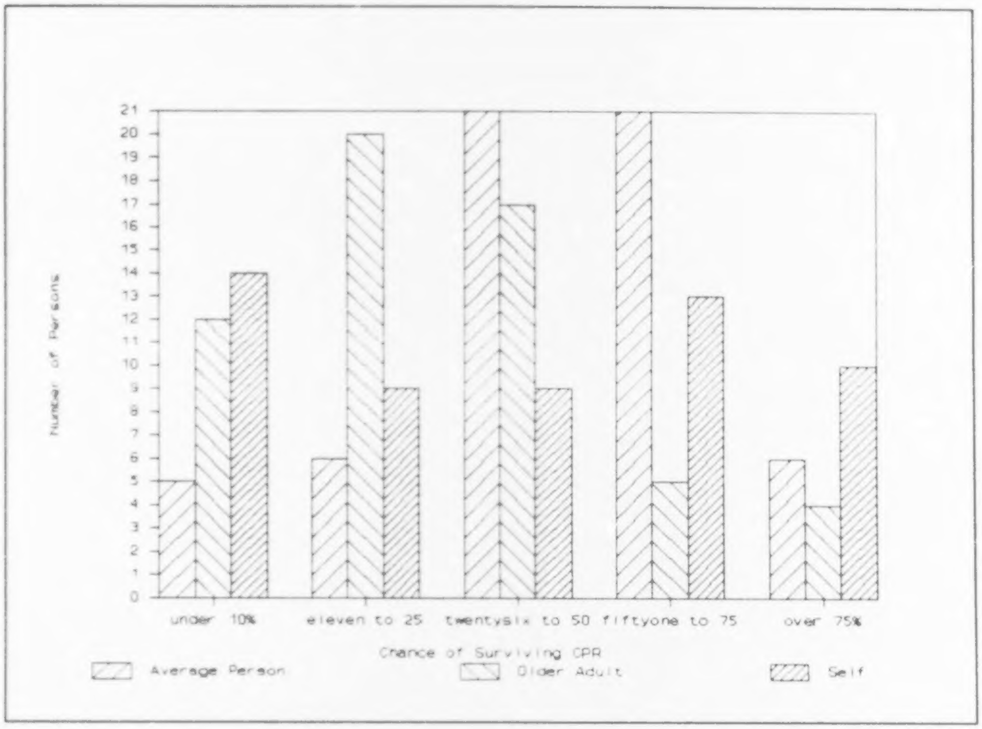
Score	Knowledge level	Criteria
1	no knowledge	no knowledge other than that given by researcher--i.e. that CPR is a method to restore heart beat
2	a little knowledge	able to verbalize either specific method(s) of CPR procedure or specific reason(s) why CPR would be needed (i.e.--cause(s) of heart stoppage)
3	some knowledge	able to verbalize specific method(s) of CPR procedure and specific reason(s) why CPR would be needed (i.e.--cause(s) of heart stoppage)
4	quite a bit of knowledge	able to provide detailed and accurate description of specific method(s) of CPR procedure and specific reason(s) why CPR would be needed (i.e.--cause(s) of heart stoppage)

the person who received CPR had survived the attempt they witnessed. Using Chi Square statistics it was found that there was a positive relationship between having witnessed CPR and level of CPR knowledge ($X^2=14.80$, $p<.05$).

Four individuals indicated that they had taken a CPR course, but none was currently certified. All of these individuals were considered to have some knowledge. None indicated that he or she had ever had to perform CPR on another person. Only three individuals (5%) stated that a health care professional had discussed CPR with them. All of these individuals had "some knowledge" of CPR.

Study participants were asked to indicate what they thought would be the average person's chance of surviving CPR, an older person's (greater than age 65) chance of surviving CPR, and their own chance of surviving CPR. The responses to the questions are summarized in Figure 1. Of the 58 persons who answered the question: What would be the chance of a person surviving CPR, 55.2% felt the chances of survival would be less that 50%, and 44.8% felt the chances of survival would be greater than 50%. Three quarters (73.4%) of study participants indicated that most peoples' chance of surviving CPR would fall between 26 and 75%. The majority of individuals interviewed believed that age would affect the rate of survival. Eighty four percent believed the chance of an older adult surviving CPR would be less than 50%.

Figure 1. Perceived survival rate following CPR.



Note. Participants responded to the following three questions.

1. Would you say that the chance of the **average person** surviving CPR and being able to resume their previous activities is <10%, 11-25%, 26-50%, 51-75%, or over 75%?

2. Would you say an **older person's** chance of surviving CPR is <10%, 11-25%, 26-50%, 51-75%, or over 75%?

3. What would you suppose would be **your** chance of surviving CPR and being able to continue your current level of activity? Would you say <10%, 11-25%, 26-50%, 51-75%, or over 75%?

It was interesting to note that when these older individuals were asked to predict their own chance of survival, the percentages reflected the pattern of the average person rather than that of the older adult. That is to say, 55.2% felt their own chance of survival would be less than 50% and 44.8% believed their chance of survival would be greater than 50%.

Older Adults' Attitudes Regarding CPR

Forty percent of this sample indicated that if their heart were to suddenly and unexpectedly stop beating today they would definitely wish to receive CPR. A further 25% indicated that they thought they would want to receive CPR. Only 20% indicated a negative response (see Table 4). Each participant was asked in an open ended question to explain why he or she responded in the manner they did. In Table 5, a summary of the reasons expressed for positive responses are presented. Those people who would like to receive CPR if they should need it were most likely to indicate the reason for responding affirmatively as simply that they wanted to go on living. A fear of brain damage or being a burden on others were most often the explanations offered for not wanting to receive CPR. Additionally, many individuals indicated that if they were of an advanced age they would not want CPR done. Several elaborated on this theme by stating that they believed

Table 4

CPR Preferences of Older Adults

CPR preference	Frequency of responses	Percent of sample	Cumulative percent
Yes, definitely	24	40.0	40.0
Yes, I think so	15	25.0	65.0
Not sure	9	15.0	80.0
No, I think not	8	13.3	93.3
Definitely no	4	6.7	100.0
Total	60	100.0	

Table 5

Reasons for Affirmative Response to Question:

Would you want CPR?

Reason given	Reported frequency
Wanted to live	23
Had good health	7
Anticipated good years ahead	6
Had spouse/family living	5
Had made plans for the future	4
Were satisfied with life	4
Had high hope of recovery	4
Had witnessed successful CPR attempt	3
Were independent/able to care for self	3
Had survived previous CPR attempt	2
Were pain free	2
Were mentally alert	1
Perceived chance of survival as good	1

Note. Respondents may have reported more than one reason.

they had already lived their allotted number of years. In Table 6, a summary of the reasons for negative responses is provided.

Fifteen percent of the study sample were unsure whether they would want CPR done. These individuals were asked to indicate what else they would want or need to know or do before being able to provide a definitive response. Eight of these nine individuals stated that to make a decision to have CPR, or not, they would want to know what the outcomes in their circumstances were likely to be. Specifically, they wanted to know if they would have brain damage or a poor quality of life following resuscitation. For others, whether or not trained personnel were available to perform CPR, whether or not the heart stoppage had been caused by an accident versus natural causes, and their age at time of heart stoppage were factors that would influence their CPR decision.

Factors Older Adults Consider Important in CPR Decisions

A number of factors which could influence the CPR decision making process have been identified by health care professionals in the literature. Respondents were asked to rate 11 of these factors as one of the following:

a) not at all important to consider;
b) somewhat important to consider;
c) very important to consider; or
d) unsure if this factor should be considered.

Table 6

Reasons for Negative Response to Question:

Would you want CPR?

Reason given	Reported frequency
Were afraid of brain damage	5
Were of an advanced age/felt they had lived their allotted years	5
Were afraid of being an invalid or burden on others	5
Expressed feelings of uselessness	3
To end suffering	2
Were not afraid of death	2
Had seen others with poor CPR outcomes	2
Wished to die with dignity	1
Were in poor health	1
Were unable to participate in activities of choice	1

Note. Respondents may have provided more than one reason for responding negatively to the question: Would you want CPR?

Table 7 provides a detailed summary of responses to this question. The factors which more than 50% of the sample believed were very important to consider included an assessment of the quality of life, the health status of an individual, the individual's own wishes regarding CPR, and the individual's ability to care for him or herself (see Figure 2). Those factors which more than 50% of the sample stated were not at all important to consider included the financial impact on the individual and the marital status of the individual.

For several factors the respondents' answers were much more divided. Almost one half (41.7%) of those interviewed believed that the financial impact on society should be considered; an equal number did not believe that this factor was at all important to consider. Ten individuals were unsure whether the financial impact on society should be considered. Age was another equivocal factor. Twenty individuals considered age to be a very important factor and 11 considered age somewhat important. On the other end of the spectrum, 28 individuals did not think a person's age was at all relevant to the CPR decision making process. When asked if a family's wishes were important to consider, 45% believed they were somewhat important to consider. Almost equal numbers fell on each side--28.3% indicating it was very important to consider their family's wishes and 25.0% indicating that their family's wishes were not at all important to consider. The majority

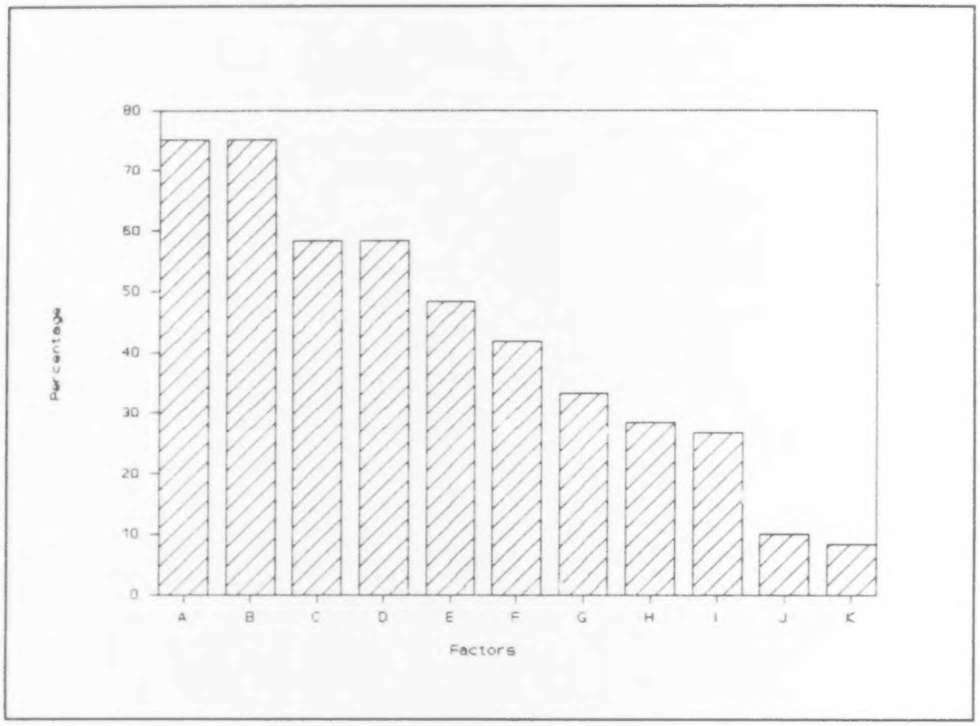
Table 7

Factors Which Should Affect the CPR Decision:

Respondent's Opinion

Factor influencing decision	Very important	Somewhat important	Not at all important	Unsure if important
Quality of life	58.3%	20.0%	18.3%	3.3%
Health	75.0%	13.3%	10.0%	1.7%
Financial impact on person	8.3%	25.0%	58.3%	8.3%
Financial impact on society	10.0%	31.7%	41.7%	16.7%
Age	33.3%	18.3%	46.7%	1.7%
Individual's wishes	75.0%	18.3%	3.3%	1.7%
Mental abilities	48.3%	30.0%	13.3%	8.3%
Chance of surviving CPR	41.7%	21.7%	35.0%	1.7%
Marital status	26.7%	15.0%	53.3%	5.0%
Family wishes	28.3%	45.0%	25.0%	1.7%
Ability to care for self	58.3%	23.3%	16.7%	1.7%

Figure 2. Factors respondents considered very important in the CPR decision making process.



Legend

A. Health

B. Individual's Wishes

C. Quality of Life

D. Ability to Care for Self

E. Mental Abilities

F. Chance of Survival

G. Age of Individual

H. Family's Wishes

I. Marital Status

J. Financial Impact on Society

K. Financial Impact on Individual

believed that the individual's mental abilities and his or her chance of surviving CPR were at least somewhat important to consider.

Respondents were asked if there were any other factors which should be considered when making a decision about CPR. Fifty three (88.3%) of the 60 study participants were not able to offer any other factors. The remaining respondents provided the following additional factors as important considerations: the personality of the individual, the individual's life history, religious beliefs, and the availability of personnel trained in CPR. Two individuals identified outcome of CPR as a factor to consider, and one respondent stated that the person's physical condition should be considered.

Persons Older Adults Believe Should Be Involved in CPR Decisions

The study participants were asked to indicate whether they would want the following individuals to participate in the CPR decision making process--themselves, their physician, their nurse(s), their family, their religious leader, and their social worker. The overwhelming majority of respondents (85.0%) indicated that they would want to be involved in the decision to perform CPR. Over 90% indicated that their physician should participate. Nursing staff participation was supported by 80.0% of respondents. Over 70% believed they would want their families involved in making the decision. Thirty five percent indicated that they would want their religious leader involved, and 16.7% reported they would want their social worker to take part. When asked if there was anyone else whom they felt should be involved, two persons indicated they would want a friend to take part, one indicated they would want an expert in CPR decision making to participate, and another wanted their significant other to be involved.

Study participants were asked to identify who should make the final decision about CPR should the group of participants they had selected not be able to reach a consensus. Sixty one percent reported that they, themselves, should have the final say. According to 18.3%, the physician should make the final decision, and 16.7% believed the family should do so. One individual stated that he would want his religious leader to make the CPR decision.

The respondents were asked the same questions again given the scenario that they, themselves, were not able to participate in the process or make the decision due to their mental or physical condition (see Table 8). A similar pattern of responses with respect to who should be involved in the decision making process emerged. Most identified physicians, nurses, and family members as key participants, followed by religious leaders, social workers, and others (including friends, significant others, and experts in the field). When

Table 8

Participants in CPR Decision Making Process:

Respondent's Opinion

Participant	Self able to participate		Self unable to participate	
	Take part[a]	Make final decision[b]	Take part[a]	Make final decision[b]
Self	85.0%	61.7%	--------	--------
Physician	91.7%	18.3%	93.3%	45.0%
Nurse(s)	80.0%	0.0%	71.7%	1.7%
Family	73.3%	16.7%	78.3%	40.0%
Religious Leader	35.0%	1.7%	26.7%	3.3%
Social Worker	16.7%	0.0%	15.0%	0.0%
Other[c]	6.7%	0.0%	3.3%	8.3%
No answer	0.0%	1.7%	0.0%	1.7%

Note.

[a] Respondents could indicate more than one individual whom they would want to take part in the CPR decision making process. Therefore take part column totals are greater than 100.0%.

[b] Respondents were asked to name only one individual (or type of individual--i.e. physician(s), nurse(s), etc.) that they would want to have final CPR decision making power. Column totals for make final decision are approximately 100% (due to rounding error).

[c] Other: Other possible individuals included a friend, a significant other, an expert in the field and consensus between family and physician.

asked to identify who should make the final decision if they themselves were unable, physicians and family members were selected almost equally. The category of other was chosen by five individuals. An expert in the field, a significant other, and a friend were each identified once. Two persons reported that a consensus between their family and physician would have to be reached before any decision could be made.

Study participants were asked the following question: If at some time in the future your physician believed that CPR would be of no medical benefit to you and recommended that you not have it done if your heart were to stop beating, would you want to be informed of this? Seventy five percent responded affirmatively to this question; 18.3% answered negatively; and 6.7% were not sure whether they would want to be informed.

Respondents were also asked if they had discussed their wishes regarding future health care with their family, their physician, their lawyer, or another individual. The answers to these questions are summarized in Table 9. Family members were most often identified as the persons with whom future health care wishes had been discussed. However, only 18.3% of respondents indicated that their family was well aware of their wishes. Even though physicians were the individuals most often identified by respondents as the persons they would want to make the CPR decision for them if they were unable to, only 16.7% of respondents stated that they had discussed their future health care wishes with their physician. Only 6.7% of respondents believed that their physician was well aware of their wishes. Ninety five percent of respondents indicated that their lawyer was not at all informed of their wishes. Eleven individuals (18.3%) indicated that they had talked about their wishes regarding future health care with another individual, such as a friend or neighbour, most often on an informal basis.

Differences Between Older Adults in Acute Care and Long-term Care Settings

In Table 10, the CPR knowledge levels of study participants are compared according to hospital setting. Using Chi Square analysis, it was found that there were no significant differences between the acute care and long-term care settings in the proportion of people in each knowledge level category ($X^2=.43$; $p=.81$).

The attitudes of respondents in both the acute and long-term care settings toward CPR for themselves are summarized in Table 11. There were insufficient numbers to test the significance of the relationship between CPR preference and type of setting. In both settings approximately two thirds indicated they would wish to receive CPR if they should need it. However, twice as many individuals in the long-term care setting did not wish to have CPR performed. More individuals in the acute care setting were unsure if they would want to receive CPR. Chi square was repeated with CPR

Table 9

Future Health Care Discussions with Others

Type of discussion	Family	Physician	Lawyer	Other
yes, they are well aware of wishes	18.3%	6.7%	1.7%	1.7%
informal discussion of wishes	38.3%	10.0%	3.3%	16.7%
no, future wishes have not been discussed	43.3%	83.3%	95.0%	81.7%

Table 10

Knowledge of CPR by Setting

Knowledge level	Acute care (n=30)	Long-term care (n=30)
no knowledge	6(20%)	8(26.6%)
a little knowledge	15(50%)	13(43.3%)
some knowledge	9(30%)	9(30.0%)
quite knowledgable	0 (0%)	0 (0.0%)

Note. There was no significant difference in the pattern of responses between acute care and long-term care (X^2=.43; p=.81).

preference categories collapsed into "yes" and "no", with those undecided excluded from the analysis. Using these collapsed categories there was no significant difference between the proportion of persons answering "yes" or "no" in the acute care or long-term care settings.

Participants rated 11 factors as to their importance in making a CPR decision. The responses for those in the acute care and long-term care settings are summarized in Table 12. There were not sufficient numbers to test for significance between the two settings. Those factors that were felt to be most important by 50% or more of both groups were quality of life, health, an individual's wishes, and the ability to care for oneself. On the other end of the spectrum, the marital status and financial impact on the person were not thought to be at all important by at least half of the participants in both the acute care and long-term care settings.

In Table 13, the respondents' attitudes regarding those who should be involved in the decision making process are compared according to the setting the respondent came from. Most individuals in both settings agreed that they themselves should be involved in making the CPR decision if they were able, and indeed believed they should have the final say in such a situation. Physicians, nurse(s), and family, in that order, were also frequently selected as participants in the decision making process.

In the scenario in which the individual was not able to take

Table 11

CPR Preference by Setting

CPR preference	Acute care (n=30)	Long-term care (n=30)
Yes, definitely	13 (43.3%)	11 (36.7%)
Yes, I think so	7 (23.3%)	8 (26.7%)
Not sure	6 (20.0%)	3 (10.0%)
No, I think not	3 (10.0%)	5 (16.7%)
No, definitely not	1 (3.3%)	3 (10.0%)

Note. There were not sufficient numbers to use the Chi Square statistic to test for a relationship. However, when CPR preference categories were collapsed into yes and no, no significance between settings was found (X^2=1.87, p=.28).

Table 12

Factors Influencing CPR Decision by Setting

Factor	Setting	Very important	Somewhat important	Not at all important	Unsure
Quality of life	acute	18	7	5	0
	long-term	17	5	6	2
Health	acute	22	5	3	0
	long-term	23	3	3	1
Financial impact on person	acute	2	9	19	0
	long-term	3	6	16	5
Financial impact on society	acute	1	12	14	3
	long-term	5	7	11	7
Age	acute	12	5	13	0
	long-term	8	6	15	1
Persons' wishes	acute	22	6	0	1
	long-term	23	5	2	0
Mental abilities	acute	12	10	5	3
	long-term	17	8	3	2
Chance of survival	acute	13	7	9	1
	long-term	12	6	12	0
Marital status	acute	10	3	16	1
	long-term	6	6	16	2
Family wishes	acute	8	14	8	0
	long-term	9	13	7	1
Ability to care for self	acute	15	8	6	1
	long-term	20	6	4	0

Note. The values represent the number of participants responding in each category.

part in the decision making process, the pattern of responses was similar--with physicians, nurse(s), and family most often chosen. When hypothetically not able to make the final decision themselves, both those in the acute care and long-term care setting divided the final decision making power almost equally between the physician and family. Nurse(s) were only selected by one participant as the final decision maker.

Relationships of Demographic Factors to Older Adults' Knowledge, Attitudes, and Opinions Regarding CPR

The relationships between a number of demographic variables and the level of knowledge of CPR were explored (see Table 14). Those found to be significant were years of formal education and age. As might be expected, a greater number of years of education was associated with higher levels of CPR knowledge. A negative correlation was found between age in years and knowledge of CPR, with older individuals having less knowledge about CPR.

Gender, perceived health status, functional status, number of medical conditions, length of admission, and type of institution (acute care or long-term care) were not found to be significantly related to CPR knowledge level. There were insuffcient numbers to analyze the relationship between resuscitation status and knowledge of CPR. It is interesting to note that three individuals with a documented No CPR order

Table 13

Participants in CPR Decision Making Process by Setting

Persons to take part	Setting	Self able to participate		Self unable to participate	
		Take part	Make final decision	Take part	Make final decision
Self	acute	27	20	-------	-------
	longterm	24	17	-------	-------
Physician(s)	acute	27	4	27	11
	longterm	28	7	29	16
Nurse(s)	acute	24	0	21	1
	longterm	24	0	22	0
Family	acute	22	6	26	14
	longterm	22	4	21	10
Relig. leader	acute	12	0	10	1
	longterm	9	1	6	1
Social worker	acute	2	0	2	0
	longterm	8	0	7	0
Other	acute	2	0	0	3
	longterm	2	0	2	2
No answer	acute	0	0	0	0
	longterm	0	1	0	1

Note. The values represent the number of participants responding in each category.

Table 14

Factors Affecting Knowledge

Factor	Statistical test	Value	Significance level
Education	Pearson's	+.2546	*p=.05
Gender	Chi Square	.3752	not significant
Age	Pearson's	-.2958	*p=.05
Perceived health status	Pearson's	-.0308	not significant
Number of medical conditions	Pearson's	-.0632	not significant
Functional status	Pearson's	-.1318	not significant
Length of admission	Pearson's	-.0506	not significant
Resuscitation status	not sufficient numbers for analysis	--------	------------
Setting	Chi Square	.429	not significant

Note. + indicates a positive correlation

- indicates a negative correlation

on their chart were categorized as having no knowledge about CPR, and yet were considered competent by nursing staff.

To explore the relationships between an individual's preference for or against CPR, Pearson's correlation and Chi Square statistics were calculated between the variable CPR preference and the variables listed in Table 15. Several were found to be significant. Those respondents with higher levels of education were more likely to want to receive CPR should they need it at some point in the future. A lower perceived health status was associated with a desire not to have CPR. Those who currently indicated a lower quality of life were less likely to want CPR. Additionally, both those who indicated a lower quality of life in the past and those who predicted a lower quality of life in the future were less apt to desire the option of resuscitation. Current functional status, age, length of admission, number of diseases, knowledge of CPR, number of children, and quality of life in the best year of their life did not significantly correlate with CPR preference.

A relationship between CPR preference and the following variables--setting, gender, discussion with health care worker, a previous experience of having CPR, belief in life after death, religiosity, and type of medical condition could not be assessed statistically. When the CPR preference categories were collapsed into yes and no, neither the setting, the religiosity of the individual, nor a belief in

Table 15

Factors Affecting CPR Preference

Factor	Statistical test	Value	Significance level
Education	Pearson's	+.2604	*p=.05
Perceived health status	Pearson's	+.3093	*p=.05
Functional status	Pearson's	+.1821	not significant
Length of admission	Pearson's	+.0062	not significant
Age	Pearson's	+.2409	not significant
Number of diseases	Pearson's	+.2202	not significant
Knowledge of CPR	Pearson's	-.0872	not significant
Location	unable to assess statistically	---------	-----------
Discussion with health care worker	unable to assess statistically	---------	-----------
Type of medical condition	unable to assess statistically	---------	-----------
Number of children	Pearson's	-.1242	not significant
Quality of life now	Pearson's	-.5061	*p=.01
Quality of life future	Pearson's	-.3991	*p=.01
Quality of life best	Pearson's	+.0359	not significant
Quality of life past	Pearson's	-.3785	*p=.01

Note. + indicates a positive correlation
- indicates a negative correlation

life after death were found to statistically significantly affect CPR preference. Only one female respondent indicated that she would not want to receive CPR, compared to 11 males. Each of the three individuals who stated that a health care professional had discussed CPR with them said they would want to receive CPR. Of the eight individuals who indicated they had undergone CPR in the past, four stated they would want CPR again, two were unsure, and two did not wish to receive CPR again. Both persons who had a terminal condition did not wish to receive CPR. Those who had an acute condition only, either responded that they were unsure whether or not they would want to receive CPR or that yes, they would want to receive CPR. Thirty seven of the 54 (68.5%) individuals with chronic medical conditions indicated that they would choose to have CPR, eight (13.3%) were unsure and nine (15.0%) responded negatively.

Summary

The older adults included in this study know relatively little about the procedure of CPR and its outcomes. Most identified television as their main source of information. Few individuals had taken a CPR course or discussed CPR with a health care professional. Most had unrealistic expectations about the success rate of CPR. The majority of individuals expressed a desire, in their current situation, to be resuscitated. The primary reason for this positive response was a wish to continue living. Those not wanting to receive CPR were concerned about becoming brain damaged or being a burden on others. Quality of life, health status, an individual's wishes, and an individual's ability to care for self were the factors considered most important in the CPR decision making process. Study respondents frequently identified physicians, themselves, nurses, and family members, in that order, as key participants in the CPR decision making process. There were few differences noted between the acute care and long-term care settings. Finally, the relationships between knowledge level, CPR preference, and a number of demographic variables were presented. Quality of life, perceived health status, and years of education were found to be related to CPR preference. Years of education and age were significantly related to CPR knowledge level.

CHAPTER 5: DISCUSSION

The use of cardiopulmonary resuscitation (CPR), a medical treatment to restore heartbeat, has resulted in many dilemmas for patients, families, and health care professionals, particularly in the elderly population. CPR has several characteristics that make it unique amongst medical treatments. There is a certain mystique surrounding the successful administration of CPR--it has been described as the miracle of reviving someone from the dead (Nolan, 1987). CPR, because of its emergent nature, is one of very few procedures that is initiated without a patient's informed consent (Moss, 1989). With most other medical treatments, such as chemotherapy or surgery, there is usually some time to consider the risks and benefits. With CPR, any hesitation is likely to lead to dire conclusions. The result of withholding CPR is certain death. CPR is also one of the few medical treatments to be initiated by someone other than a physician. That someone may be a lay person trained in CPR, or if in hospital, it is likely to be initiated by a nurse. "An order not to resuscitate is one of the most important patient care directives that can be issued, since it has such dramatic and irreversible consequences" (Greenlaw, 1982, p. 30). This discussion chapter will focus on five issues relevant to the topic of CPR and older adults: CPR knowledge level of older adults, CPR preferences of older adults, important factors to older adults in the CPR decision making process, participants in the CPR decision making process, and CPR policies. In each of the following sections the results of this study will be compared and contrasted with earlier studies and reports. Significant characteristics of the sample will also be discussed.

Significant Characteristics of Sample

The typical participant in this study was 73 years of age, had completed 11 years of education, was married with three children, and suffered from several chronic conditions. As might be expected, those in the long-term care setting had a significantly lower functional status, had been hospitalized for a longer period of time, and had a larger number of medical conditions when compared to those in the acute care setting. One interesting finding was a significant difference in the educational level of persons in the two settings. Those in acute care, on average, had over two more years of education than those in the long-term care setting. There may be several explanations for this difference. Perhaps those with a higher level of education are able to find the means for alternative forms of health care. Perhaps the better educated are healthier. Additionally, this long-term care population was comprised primarily of war veterans, who perhaps did not have the opportunity to continue their education. A male biased long-term care sample may have affected the results of the study, hence this must be considered as a limitation throughout the following discussion.

CPR Knowledge Level of Older Adults

At the beginning of the interview, the older adults in this study were asked to discuss what they knew about, or had heard about, the procedure of CPR. Many knew nothing, and indeed, had never heard the term before. Seventy percent of the 60 persons interviewed had either no knowledge or only a little knowledge of CPR. As discussed earlier, a person was considered to have a little knowledge if they could identify either a cause of heart stoppage or a component of the procedure itself, such as artificial respirations or chest compressions. Only 30% were able to identify both a cause of arrest and a description of what the CPR procedure might include. These results are similar to those of Shmerling et al. (1988) on a similarly aged sample of elderly outpatients. In their study, 59% could provide some description of CPR, but only 7% were aware that such things as intubation or electrical shock could be part of CPR administration.

Participants in this study were asked to report whether or not they had ever seen CPR performed. Almost 60% had seen CPR performed. The majority of these individuals had observed the procedure on television. The television show Rescue 911, which reenacts medical emergencies, and is hosted by William

Shatner, of Star Trek fame, was often mentioned as the source of the respondent's information about CPR. Television was also the most often reported source of information about CPR in studies by Shmerling et al. (1988) and Schonwetter et al. (1991). This raises a serious question. Does television accurately portray the reality of CPR? Television programs, such as Rescue 911, do not always represent the norm. Most reenactments on this show have happy conclusions, with the CPR recipient experiencing a full and complete recovery. Three quarters of the participants in this study reported that the CPR attempt they had witnessed was successful. This does not reflect the actual success rate of CPR. Performed under ideal circumstances--in hospital, with staff and equipment available immediately--the highest reported success rates, (success being defined as survival to discharge from hospital) are often less than 20% (Bedell et al., 1983; Lemire & Johnson, 1972; Moss, 1989; Murphy et al., 1989). The depiction of the procedure of CPR itself is not always correct either. For example, on the television show Rescue 911, most often only basic CPR--artificial respirations and chest compressions--are demonstrated. The more invasive procedures, such as intubation, electrical shock, or intracardiac medication administration are not often described or portrayed. Although intended to encourage others to learn the methods of CPR, such television shows may be promulgating unrealistic expectations about the procedure's life saving potential.

Television is likely to continue to be an important source of information about a wide range of topics, including CPR. It may be of even greater importance to that proportion of the population who is confined to their home--many of whom are older adults. Recognizing television's influence on people's knowledge is significant for health care professionals in the following two ways. First, health care professionals need to ascertain what information and misinformation older adults have regarding CPR. Any misconceptions need to be identified and corrected. Secondly, television programming that accurately depicts CPR and its outcomes for the older adult population needs to be developed and widely broadcast. In Pennsylvania, two such programs exist. One focuses on making an informed decision to be resuscitated or not, and the second examines potential outcomes following CPR (Grandstrom, 1987). The benefit of these programs has not as yet been documented.

Most older adults in this study believed that the average person's chance of surviving CPR would be greater than 50%. However, only just over 15% believed that the older adult's (aged 65 or greater) chance of survival would be greater than 50%. Most perceived that advanced age would lessen the chance of survival. Both are misconceptions. As stated earlier, success rates are usually reported as less than 20%. As well, age independently has not generally been found to affect CPR outcomes (Bayer et al., 1985; Bedell et al., 1983; Charlson et al., 1986; Fusgen & Summa, 1978; Gulati et al., 1983; Linn & Yurt, 1970; Murphy et al., 1989). It is interesting to note that when asked about their own chance of survival, most felt their chance of survival would be greater than 50%. This sample of older adults apparently did not feel they were representative of older adults in general and were quite optimistic about their own survival following a CPR attempt. Two other recent studies, one by Schonwetter et al. (1991) and another by Russell et al. (1991) also found that older adults "consistently overestimated their chances of surviving CPR" (Schonwetter et al., 1991, p. 374). This finding is difficult to explain. It may reflect the inflated survival rate following CPR which is often portrayed on television, or a sense of denial of one's own mortality. It does suggest that explanations about CPR to older adults must thoroughly address the usual complications and expected outcomes of CPR.

The relationship between a number of demographic variables and knowledge level was examined. Knowledge level was not found to be related to gender, number of medical conditions, functional status, length of admission, perceived health status, or setting--acute care versus long-term care. Not surprisingly, knowledge level was related to level of education, whether one had witnessed CPR, and age. In addition, although none was currently certified in the administration of CPR, four individuals reported they had taken a course in CPR in the past. All of these individuals had retained some knowledge about CPR. It is also noteworthty that the three individuals who had held previous discussions about CPR with their physicians also were found to have some knowledge about CPR. Although, these numbers were small, they do suggest that both CPR courses and discussions with physicians about CPR may be beneficial educational methods for older adults. Several individuals commented that they had forgotten a lot of the details since they had taken the course or since the discussion with their physician. This would intimate that information about CPR needs to be continually repeated and updated throughout each person's lifetime.

CPR Preferences of Older Adults

In this study, 65% of individuals indicated that if their heart were to suddenly and unexpectedly stop beating today, they would want to be resuscitated. Most of these individuals were unequivocal in their response stating they would definitely want CPR to be performed. When explaining why they responded positively, the most common response was simply that they wanted to live. Other reasons frequently reported were good health, anticipated good years ahead, and the presence of a spouse or other family members with whom they wished to continue sharing the experiences of life. Twenty percent of the sample did not wish to receive CPR. Less than seven percent replied they would definitely not want CPR performed.

The three main reasons, each equally reported, for negative responses were a fear of brain damage, a fear of being a burden on others, and being of an advanced age. The remaining 15% were undecided, and most reported that they would need more information about the expected CPR outcome for their particular situation before they would be able to reach a decision.

The relationship between a number of demographic variables and CPR preference was examined. No relationship between CPR preference and functional status, length of admission, age, number of diseases, knowledge of CPR, number of children, or the quality of life in the best year of their life was found. When CPR preference categories were collapsed into yes and no, no relationship between CPR preference and setting, religiosity, or a belief in life after death was found. Although similar numbers in each setting, acute care and long-term care, wished to receive CPR, twice as many persons in long-term care did not wish to have CPR performed than in acute care. In the acute care setting, compared to the long-term care setting, twice as many persons were undecided about their resuscitation preference. A relationship between CPR preference and gender could not be assessed statistically. However, only one female (5.5%) out of 18 replied that she would not want CPR, compared to eleven males (26.2%) out of 42 who responded negatively.

Five variables were found to be significantly related to

CPR preference. Higher educational levels were associated with an increased preference for CPR. This finding is in contrast to the results of Schonwetter et al. (1991) who found that "those who were more educated and informed were more likely to reject CPR as an appropriate health-care intervention" (p. 376). An explanation for this difference is not known.

Greater perceived health status was associated with a desire to be resuscitated. Seventy five percent of individuals thought that health was a very important factor to consider when making a CPR decision. After "wanting to live", "having good health" was the second most frequent response given for responding affirmatively to the question: Would you want CPR? There appears to be congruency between the attitudes and behaviours of older adults with respect to the important role health status plays in CPR decision making.

The remaining variables associated specifically with CPR preference focused on a person's perceived quality of life. An increased current quality of life, past quality of life, and anticipated quality of life were all positively related to choosing CPR. This finding is contrary to that found by Schonwetter et al. (1991). Those researchers did not find a relationship between quality of life and CPR preference. Quality of life was measured differently in the two studies. This may have influenced the results. The importance of addressing an individual's current and future quality of life during the CPR decision making process was strongly supported by health care professionals in the literature. It would appear that older adults also consider quality of life issues to be of consequence in making a resuscitation decision.

A determination of an individual's quality of life can only be made by the individual (Fox & Lipton, 1983; Miles et al., 1982). Attempts to make this assessment by others (health care professionals and family members) have proven to be inadequate and error-ridden (Bedell & Delbanco, 1984; Starr et al., 1986). The results of this study suggest that older adults must be included in the CPR decision making process so that issues of quality of life can be appropriately addressed.

The literature also identified the criterion of medical condition as one which should be assessed during the CPR decision making process. In this study, each of the two individuals who were diagnosed with a terminal illness did not want to receive CPR. Most with one or more chronic illnesses did desire CPR (37 desired CPR; 9 did not). One of four individuals who had only an acute illness did not wish to have CPR. Although more objective measures such as functional status and number of medical conditions were not found to be related to CPR preferences, perceived health status was significantly related. Again these data would suggest that older adults must take part in the CPR decision making process. The usefulness of age as a criterion for withholding CPR has been both supported and refuted in the literature. No relationship between age and CPR preference was found. Contrary to Russell et al. (1991), the results of this study would advocate the stance that age does not usually affect an individual's preference regarding CPR. However, for certain individuals age was considered a reason for not wanting CPR.

Considering the multiple health problems most respondents had, their advanced age, and their belief that most older adults would not survive a CPR attempt, the results concerning the desirability of CPR are quite astounding, especially for those in the long-term care setting. These results do not support the claim of Murphy (1988) who stated that most patients in long-term care facilities do not wish to be resuscitated. These findings are somewhat reflective of the results of Shmerling et al. (1988) who found that even in situations in which death was described as imminent (situations described were an irreversible coma, irreversible congestive heart failure and terminal cancer) between 25 and 41% of those elderly outpatients interviewed would request CPR. The results are also similar to Fader et al. (1989) who found that 62.5% of individuals living in a nursing home would want to be resuscitated. Withholding CPR, on the basis of age, institutionalization, or an objective measurement of health status would not reflect the wishes of the individuals interviewed in this study. The attitudes of participants toward CPR might have been less positive if they had been given specific information about their own medical condition, prognosis, and likely chance of survival following CPR.

In this study, many individuals were unaware that they may have the opportunity to make a decision about CPR. Several individuals wondered why the researcher was asking them questions about their CPR preference. Most perceived that control of their care was out of their hands. As well, most were not aware of the institution's policy to administer CPR unless a documented order not to perform CPR was on the patient's chart. These general findings suggest that most patients, when hospitalized, experience a genuine loss of control and quickly assume a more passive role. Despite the value society places on autonomy and the recognized benefits to patient participation in treatment decisions, paternalism within hospital settings appears to persist.

It is of concern that several individuals with a documented "No CPR" order on their chart had no knowledge about CPR, despite being considered competent by staff. Memory problems may have been a factor. However, in light of reports of previous literature, it is more likely that the decisions were made without the individual's knowledge, perhaps through consultation with family. Documentation on charts in the progress notes of any discussions with patients were not reviewed. This would have provided additional clues to this discrepancy.

Important Factors in the CPR Decision Making Process

Participants rated 11 different factors either not at all important to consider, somewhat important to consider, or very important to consider when making a CPR decision. These factors included quality of life, health status, individual's wishes, mental ability, financial impact on society, financial impact on the individual, age, family's wishes, marital status, chance of surviving CPR, and ability to care for self. The factors that the majority of individuals in this study reported were very important to consider were quality of life, health status, individual's wishes, and an individual's ability to care for self. Previous research that investigated the factors health care professionals perceived as important to the CPR decision making process showed considerable consensus on the issues of quality of life, medical condition or health status, and on respecting an individual's wishes. Although these three factors were considered important conceptually, in actual treatment decisions, quality of life issues and individual's wishes were often not taken into account. As it appears that both care recipients and caregivers agree about the importance of these factors, it is perhaps time to take a closer look at the gap that exists between beliefs and behaviour in the CPR decision making process.

There is also support in the literature regarding the relevance of considering an individual's ability to care for oneself as a criterion used for withholding CPR. Uhlmann et al. (1984) observed that "a significantly greater proportion of the non-surviving no-code patients were nonambulatory" (p. 115). Nursing home status, which is likely to indicate a person is no longer able to care for him or herself independently, was found to be significantly related to a physicians' decreased likelihood of initiating CPR. It has also been shown that a history of nonambulation prior to an arrest is associated with a lower survival rate following CPR (Bedell et al., 1983).

Two factors which the majority of older adults in this study felt were either somewhat or very important to consider were the individual's mental ability and their chance of surviving CPR. Farber et al. (1985) reported that a diagnosis of mental retardation or dementia was related to a decreased administration rate of CPR. In a study of critically ill patients in hospital, those with a designated "No CPR" status were more likely to have an abnormal mental status such as dementia, encephalopathy, or coma, than those without a documented "No CPR" status (Bedell et al., 1986). Making a decision on behalf of an incompetent patient is an extremely difficult and complex task. The presence of an advance directive prepared by the patient prior to becoming incompetent would greatly facilitate the decision making process. It is of concern that only one individual in this sample had prepared an advance directive regarding future health care. Further education and study in this area is required.

Although the poor outcome following CPR for a number of conditions is well documented, determining the futility of treatment for a particular individual remains nebulous, at best. Each individual brings to his or her illness a unique set of circumstances. The will to live defies scientific explanation. When faced with a choice between an absolute and certain death and perhaps a statistical chance of survival of only one or two percent, many, it appears will opt to take the chance CPR provides them. An individual's own determination of what risks he or she is willing to take, incorporating his or her own definition of what is futile, is perhaps one of the key components that can guide the CPR decision making process.

Participants in this study were clearly divided on the pertinence of several factors, most notably, age, family's wishes, and the financial impact on society. About equal numbers felt these factors were either very important or not at all important to consider in the CPR decision making process. This finding is not surprising because each of these factors has also been heatedly debated in the health science's literature. No clear consensus has been, or is likely to be, achieved. Arguments on both sides are convincing and the relevance of age, family's wishes, and financial impact on society seem to be hinged on an individual's own values and beliefs. Therefore, when making a decision regarding CPR, it will be necessary to consult the individual for whom the decision is being considered, to determine if he or she believes age should make a difference. Similarly, only individual patients can indicate if they want their family to be involved in the CPR decision making process or if they would want their family's wishes to be respected should they become incompetent. The financial impact on society is a much broader issue and will require the input of all stakeholders--government, health care professionals, and consumers. In a study by Frampton and Mayewski (1987), the financial impact of performing CPR on older adults on society was not considered important by physicians and nurses. It is also interesting to note that although many participants identified age as an important consideration in the CPR decision making process, their actual stated preferences about CPR were not significantly related to age.

Most participants did not believe that the financial impact on the individual or their marital status should influence the CPR decision. Canadians generally expect that their health care needs will be met financially. As health care dollars become less available and the health care needs of an aging population increase, the distribution of health care funding is likely to become an even more contentious issue. Achieving an acceptable resolution will require the participation of all sectors of society. Although marital status was not considered important by most respondents, the presence of a spouse was one of the reasons most often reported for desiring CPR.

Participants were asked if there were any additional factors which they believed were important to consider when making a decision about CPR. The majority offered no further suggestions. However, the personality of the individual, the individual's life history, religious beliefs, and the availability of personnel trained in CPR were each recommended by one individual as further factors that should be considered. Although not analyzed statistically, the pattern of responses regarding the factors to be considered in the CPR decision making process between the acute care and long-term care settings appeared to be quite consistent. This again suggests that individual differences in beliefs and values are more important in influencing decisions than the setting in which the individual currently is located.

Participants in the CPR Decision Making Process

The literature regarding participants in the CPR decision making process identifies physicians and families as those most often involved in reaching a decision about CPR for individual patients. For all intents and purposes, it is the physician who currently makes most final decisions about CPR. The involvement of families is often limited to their being informed why their relative should not receive CPR. Most often families will agree with the physician's recommendation.

Whether or not families have a thorough understanding of the rationale for, and ramifications of, withholding CPR is an issue which has not been adequately researched. To a much lesser extent, the desired involvement of patients, nurses, social workers, clergy, and ethics committees, in that order, was reported.

The great majority (85%) of participants in this study want to be involved in the CPR decision making process. The majority (75%) hoped that their physician would inform them if they thought that CPR would be of no benefit to them. Most also want the decision making power if they are competent. An even larger number wanted the input of their physician (91.7%). These results are similar to those found in a study by Schonwetter et al. (1991). Respondents also indicated that nurses, families, religious leaders, social workers, or someone else, such as a friend or expert in the field, in that order, should be included in any discussions. The discrepancy between beliefs and practice regarding an individual's right to self determination in health care decisions is most alarming. As has already been discussed, without the individual's input into the CPR decision, it is unlikely that a decision in line with what the individual truly desires will be achieved. Only the individual can determine what is a satisfactory quality of life for him or herself; only the individual can identify what risks he or she is willing to take; and only the individual can identify who he or she wishes to be involved in the decision making process. Older adults do, however, favour a collaborative approach to making decisions about CPR. They recognize that physicians, nurses, family, and others may provide, in addition to information about their own medical condition and prognosis, another perspective on the CPR issue. These persons may also provide support, emotional and otherwise, to the individual throughout the decision making process.

If the respondents in this study were to become incompetent, they indicated that they would want physicians, family, nurses, religious leaders, and social workers, in descending order, to be partners in the decision making process. It is interesting to note that when competent, more individuals desired the participation of nurses than family. However, when the situation of incompetency was proposed, the older adults selected family as participants more often than nurses. Otherwise the pattern remained unchanged. When no longer competent to make the CPR decision themselves, these participants indicated about equally that the final decision should be made by physicians (45%) or families (40%).

Although statistical significance could not be determined, there were several differences between the acute care and long-term care participants with respect to who should be involved in the decision making process. In the long-term care setting, respondents were four times more likely to indicate that social workers should be involved in the CPR decision making process. This is likely because a greater number of older adults in the long-term care setting have had direct and continuing contact with a social worker. Those in the acute care system were less likely to have had an ongoing relationship with a social worker and were probably less aware of the role of social workers. In the acute care setting, a larger number of individuals requested the participation of a religious leader than in the long-term care setting. It was also interesting to note that in the long-term care setting more individuals selected the physician as the final decision maker in the case of incompetence. In the acute care setting, a larger number preferred a family member to make the final decision. A possible explanation for this variance may be that those in the long-term care setting have less frequent contact with family members. In this particular long-term care setting most residents were male veterans, and there was a higher proportion of divorced or separated individuals (30%) in this sample, than is found in the older male adult population at large (1.8%) (Stone & Fletcher, 1981). This estrangement from families may have contributed to their preference to have the physician make the final decision.

Although most individuals wanted their physicians to be involved in the decision making process, a significant number (83.3%) had never discussed their future health care wishes with their physician. Only four individuals stated that their physician was well aware of their preferences. These results reflect those found by Ebell et al. (1991). A larger proportion (18.3%), though still quite small, of family members were considered to be well informed regarding the wishes of the individual about health care. More respondents (38.3%) reported that they had informally discussed their future health care preferences with their families. Only one individual had discussed his health care wishes with a lawyer. This person was the only one who indicated that he had prepared an advance directive in the form of a living will. These statistics suggest that most individuals have not formally discussed their future health care wishes, including the administration of CPR, with anyone--family, physician, lawyer, or other.

Perhaps physicians need to initiate conversations about future health care wishes early in their relationships with patients, particularly those in the older adult age group, who have a demonstrated greater need for health care, higher rates of hospitalization, and are at greater risk of requiring CPR. Possible scenarios and options for future health care need to be discussed. Such conversations should be ongoing, and decisions reevaluated, especially if there have been any significant changes in the individual's health status. Documentation of such discussions and communication to other health care professionals who are involved with the patient's care are essential. Completion of an advance directive, in the form of a living will or appointment of a durable power of attorney, would facilitate the decision making process.

If older adults were better informed about CPR, they might feel more comfortable in bringing up this topic in conversation with their physicians. They would also be better equipped to make an informed decision. Health care professionals have a responsibility to educate the public about health matters. As suggested earlier, one strategy may be the use of media presentations that provide realistic and understandable information about the procedure of CPR and its outcomes. Additionally, health care professionals who deal with older adults--both in the community, long-term care, and acute care--should be well versed about the issues surrounding the administration of CPR and be able to discuss this topic thoughtfully and with tact with their patients. As outlined earlier, discussing resuscitation has been found to: open the lines of communication between health care professionals, patients, and their families; relieve anxieties; and provide patients with a sense of control about their lives (Bedell & Delbanco, 1986; Bell, 1984; Havlir et al., 1989; Murphy, 1988; Quintana et al., 1991).

Utilizing a collaborative approach to CPR decision making is well supported by the results of this study. Most participants desired the participation of physicians, themselves, nurses, and family members. The involvement of religious leaders and social workers was also requested by a significant number of respondents. Indeed, when asked who should make the final decision in the situation where the patient is incompetent, two individuals indicated that the decision should not be made by one individual, but rather by consensus between the family and the physician. Many respondents verbalized that it was difficult to select one person as the final decision maker. Most hoped that consensus could be achieved. They felt this would negate the need for one particular person's decision to take precedence over another's. In situations where dissension between patients, physicians, families, or others occurs, the services of institutional ethic committees could be utilized (Besdine, 1983). Such a committee could play a role in objectively clarifying the ethical issues and help the interested parties achieve a successful resolution to the dilemma.

CPR Policies

Most hospitals currently have policies regarding the administration of CPR to terminally ill patients--those for whom death is considered imminent and further treatment has been defined as futile. These policies, however, do not address the issue of CPR with any other population of patients, such as those older adults with chronic or acute illnesses. There may be a significant number of older adults (and perhaps persons in other age groups) who do not have a terminal illness, who do not wish to receive CPR, due to factors such as a poor quality of life, or a poor perceived health status, or a feeling that they have lived their allotted life span and are ready to die.

As the numbers of older adults in the population are increasing, and health care dollars are shrinking, decisions regarding CPR will become even more frequent. Perhaps policies should be instituted that mandate that every individual be made aware of current CPR policies, which dictate CPR be performed unless a "No CPR" order is recorded on the chart. This would force the issue to be addressed and could potentially reduce the number of dilemmas regarding resuscitation, in addition to saving the money that would have been spent administering a treatment that was not desired by a patient. This would also prevent the current situation in which many patients become incompetent before CPR discussions are initiated. Davila et al. (1986) discuss the implementation of a policy that categorized every patient in a teaching hospital into one of three categories--full support including CPR, full support excluding CPR, and modified support, excluding CPR. Such a policy was found to increase the attention paid to the issue of CPR by physicians. Timing the discussion early in the patient's hospitalization would also prevent the need for a decision to be made in an emergency situation, what Cross and Churchill (1982) refer to as crisis consent.

The results of this study and the pertinent literature surveyed suggest that there are several factors which most older adults and health care professionals believe are important to consider when contemplating a decision about CPR--quality of life, health status, individual's wishes, and the ability to care for oneself. CPR policies should mandate that each of these areas be addressed. CPR policies should also provide guidelines regarding the participants who should be involved in the CPR decision making process. Additionally, CPR policies need "to provide mechanisms for cooperatively resolving disagreements" (Evans & Brody, 1985, p. 2239) should they arise between staff, patients, and families. The patient, if at all possible, must be involved in the process. Only the patient will be able to determine who he or she wants to be involved in the CPR decision making process and what factors he or she feels are most relevant to the situation. To make any stringent rules, such as age restrictions, would be unethical, unnecessary, and of little benefit. The development of different CPR policies for acute and long-term care would negate the importance of the individual's own unique circumstances, values, and beliefs. Further research and development of appropriate CPR policies is needed.

If this sample is at all representative of older adults in acute care and long-term care settings, the concerns about initiating CPR discussions, such as increased anxiety and psychological distress, appear not to be justified, at least in the short term. Further longitudinal studies with followup of study participants would yield additional information. The adults involved in this study were all willing to discuss the topic, although some believed their input would be limited as they did not believe they were knowledgable about the issue of CPR. Although all of the reasons respondents had for not taking part in the study are not known to the researcher, those most often expressed were: "I'm too tired," "I'm not really interested," "I've answered enough questions already," or "I don't know anything about CPR--ask someone younger." Most of the older individuals in this study appeared to understand the information given to them about CPR and were able to answer the questions appropriately. In this study the sample was limited to those persons whose physical condition was considered stable. Discussions of CPR are likely less threatening and more beneficial when discussed before the individual becomes critically ill. Early discussions would allow time for contemplation and an opportunity to seek additional information.

Summary

Older adults in the acute care and long-term care settings have limited knowledge regarding CPR and its outcomes. Many have erroneous beliefs about its life saving potential. Most would, however, prefer CPR to be administered if they should need it in the future, based simply on a desire to continue living. The factors affecting a CPR decision and the persons that individuals would like involved in the process are quite varied in both the acute care and long-term care settings. This suggests that CPR policies need to be flexible enough to accommodate the wide ranging values and beliefs of older adults. No support for differing policies in the two settings was demonstrated. The study has identified a need for further education of older adults regarding CPR, as well as a need for increased communication between patients and health care professionals. Discussing CPR with older adults in acute care and long-term care settings did not appear to be emotionally traumatic for the individuals involved. There remain many further questions and areas for additional research.

CHAPTER 6: CONCLUSIONS AND IMPLICATIONS

Conclusions

CPR Knowledge Level of Older Adults

The results of this study suggest that most older adults in acute care and long-term care settings know very little about CPR. Most report that what information they do possess, they received primarily from media sources, especially television. Very few of these older adults have ever discussed CPR with a health care professional. Many were not aware that they could play a role in the CPR decision making process. A higher level of education and a younger age were the only two variables found to be associated with an increased knowledge of CPR.

CPR Preferences of Older Adults

Despite having multiple medical conditions, being of an advanced age, and believing that the average older person's chance of surviving CPR was less than 25%, many older adults wish to receive CPR should they need it at some point in the near future. Most reported a sincere desire to continue living and were satisfied with their current lives. A desire to be resuscitated was associated with a reportedly higher past, current, and future quality of life; better perceived health status; and a higher level of education. There was no relationship between desired resuscitation status and age, functional status, length of admission, number of diseases, knowledge of CPR, or number of children. Neither religiosity or a belief in life after death appeared to influence an individual's preference for or against CPR. The current location of the individual, in either an acute care or long-term care setting, did not appear to influence the competent older adult's decision regarding resuscitation.

Important Factors in the CPR Decision Making Process

The factors older adults believe are important to consider when contemplating a CPR decision are similar to those reported in the literature by health care professionals. Those factors most strongly supported in this study include an appraisal of current health status, a quality of life assessment, respect for an individual's expressed wishes, and an ability to care for oneself. However, on many factors the responses varied dramatically between individuals in their rating of importance by older adults. Contrary to what is often reported in the literature, age was not considered to be an important factor in the decision making process by almost one half of those interviewed.

Participants in the CPR Decision Making Process

The majority of older individuals in both the acute care and long-term care settings wish to take part in the CPR decision making process and indeed many indicated that the final decision should rest with the individual. In both settings, most older adults would like physicians, nurses, and their families, in that order, to be involved in the decision making process. These are the same participants that were identified by health care professionals in the literature. Nurses, however, were selected as persons who should be involved in the resuscitation decision by participants in this study with greater frequency than was reported as practice in the literature. Utilizing a collaborative approach in the CPR decision making process was supported by most older adults in this study.

CPR Policies

It is of significance to note that older adults in the acute care and long-term care settings did not appear to differ significantly on either their knowledge level of CPR, their desire for resuscitation, the factors they felt were important to consider in CPR decisions, or on the participants they felt should be involved in the CPR decision making process. There was however much individual variance within each setting. This would lead one to believe that the CPR decision making process must be determined at the individual, rather than the institutional level. Policies for both settings could be couched in generalizations, with guidelines for assessment, but identifying specific criteria to be used in withholding CPR in various settings would not adequately reflect the diverse desires of older adults.

Implications

Education

There is evidently much work to be done in the education of older adults about CPR. Currently, television, which does not always accurately portray real life, is the older adult's main source of information about CPR. Perhaps television programming that honestly and accurately portrays resuscitation could be developed. This could be targeted to the older adult audience. Additionally, health care professionals in their interactions with older adult patients must assess the individual patient's knowledge level. The topic of CPR should be introduced before it becomes a necessity. Ideally, the family physician who is most likely to have established an ongoing relationship with a patient should bring up the issue. Discussions about CPR should continue at various intervals, particularly if the patient's health status changes. In hospital, nursing staff also need to be cognizant of the patient's awareness of CPR and its implications. Pamphlets which highlight the details of CPR need to be developed to assist in patient teaching.

Patients in acute care and long-term care settings must be informed that they will receive CPR should they need it, unless an order to have "No CPR" has been recorded on their chart. Many older individuals are not currently aware of this. Because of an increased level of memory impairment among the older adult population, information must be repeated on more than one occasion. Ongoing assessment of their level of understanding throughout their hospitalization must be completed. Patients should be encouraged to discuss their wishes with family members as this may help to alleviate the guilt feelings and anxiety family members often experience when facing the impending death of a family member (Bedell et al., 1986).

There may also be a need for further education of health care professionals. Health care professionals must have the skills and knowledge required to communicate information accurately in a non-threatening and unbiased way. They must learn how to best elicit the patient's values and preferences, goals and expectations (Brody, 1980). Health care professionals must also be well versed on their institution's own CPR policy and its implications for practice.

CPR Policies

Most CPR policies, today, suggest that before a "No CPR" order is written on patients' charts, they should have a terminal illness, and their death should be considered imminent. The results of this study suggest that there are others for whom "No CPR" decisions may be appropriate. CPR policies need to be broadened to incorporate issues such as poor quality of life and diminished health status due to chronic illness. This would help to ensure that individuals who do not wish to receive CPR are allowed to die without this invasive medical procedure. To guarantee that each individual has the opportunity to make known their preference about CPR would require a policy which dictated CPR be discussed at the time of admission to a health care facility.

Several authors have suggested a need for differing CPR policies in the acute care and long-term care settings. This study does not support the need for dissimilar policies. Policies regarding resuscitation should identify general guidelines to be followed when contemplating a CPR decision, but based on the results of this study, it would be dangerous to suggest specific rules. The decision to receive or reject CPR as a treatment appears to be very much an individual one dependent on individual values and beliefs. Policies could suggest that issues such as quality of life, health status, an individual's expressed wishes, and an ability to care for oneself be addressed with each patient. They could also identify persons whose input might be helpful in the process, such as physicians, nurses, and families. They should not, however, dictate that persons of a specific age or health status be denied the procedure of CPR. Again, patients must be made aware, on admission or soon after, of the existence of CPR policies which dictate that CPR be performed unless an order to withhold CPR is recorded on the patient's chart.

Although the CPR decision making process for incompetent individuals was not addressed in this study, a strong case for encouraging individuals while they are competent to complete an advance directive for their future care can be made. These advance directives could then be used to guide the care of patients should they become incompetent.

Nursing Practice

In this study, most participants expressed a desire to be resuscitated. If these wishes are to be respected, nurses must be competent in the delivery of cardiopulmonary resuscitation. Yearly re-certification would be necessary for all those working with older adults in both the acute and long-term care settings. Nurses and physicians also need to be well educated about CPR and its implications for older adults, so that they can provide patients with accurate and appropriate information. The older adults in this study perceived that nurses should be involved in the CPR decision making process and therefore may look to them as resource persons when contemplating such a decision. Nurses need to be available to support patients and their families throughout the CPR decision making process. Nurses may be required to act as patient advocates and should be involved in the CPR decision making process. As well, nurses should be involved in the development of appropriate CPR policies.

Future Research

Additional studies focusing on older adults and CPR are essential. Replication of similar research in other acute care and long-term care settings would help to support or refute this study's findings. A larger sample, again randomly selected, would facilitate additional statistical analyses of relationships. It would also be beneficial to sample elderly persons in the community setting to compare their knowledge, attitudes, and opinions about CPR to those of older adults in acute care and long-term care settings. Incorporating specific information about each individual's medical condition and likely outcome should they require CPR into the interview would lead to further knowledge. Studies that examine the CPR decision making process with respect to incompetent patients are also required. Studies that focus on the knowledge, attitudes, and opinions regarding CPR of health care professionals who work with older adults would provide further insights.

Cardiopulmonary resuscitation may be a patient's last chance at life. If health care professionals are truly to achieve the goal of doing good for their patients, they must continue to learn more about how older adults would prefer to manage their health care planning at the end of their lives, particularly with respect to CPR.

Summary

In this chapter the main conclusions of the study are outlined. They include the following. Older adults know relatively little about CPR. Most older adults would prefer to receive CPR, if they should need it. Quality of life, health status, an individual's wishes, and an individual's ability to care for self were the factors older adults identified as important in the CPR decision making process. Most older adults supported a collaborative approach to decision making. CPR policies in acute care and long-term care settings should be similar. They should be flexible enough to allow for individual differences in values and beliefs.

Implications for education, policy, practice, and research are addressed. Educational programs about CPR for older adults in the community, acute care, and long-term care settings are needed. CPR policies need to address the concerns of older adults. Nurses need to be cognizant of their roles in the CPR decision making process. These may include acting as patient advocate, administering CPR to those patients who so desire, participating in policy development, and playing a more active role in the CPR decision making process. Lastly, suggested areas for further research are identified.

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Appendix A

Patient Consent Form

FACULTY OF NURSING
UNIVERSITY OF ALBERTA

INFORMED CONSENT FOR THE RESEARCH STUDY TITLED:

CARDIOPULMONARY RESUSCITATION: KNOWLEDGE, ATTITUDES AND OPINIONS OF OLDER ADULTS IN ACUTE CARE AND LONG TERM CARE SETTINGS

Researcher who is doing this study is:

Dianne Godkin, R.N.
M.N. Candidate
Faculty of Nursing
University of Alberta
Phone: 492-6260

Supervisor: Dr. Janet Kerr
Faculty of Nursing
University of Alberta

PURPOSE OF THIS STUDY:

CPR is a treatment used to restart a person's heart when it has stopped beating. CPR was first used in the 1960's. Since then, there has been much discussion by medical people about when to give CPR to a person. The person most affected by such a decision is you, the patient. This study seeks to find out your thoughts about CPR.

PROCEDURE AND RISKS:

If you decide to take part in this study, I will meet with you for about one hour. At that time, I will ask you some questions about each of the following.

--your present awareness of CPR.
--the factors you feel are important in deciding about CPR.
--whether you would want to receive CPR.
--your current health and quality of life.

Some brief notes will be taken during the interview. A tape recorder will be used so that I can review your answers.

I will also write down facts from your chart such as your age, medical conditions and date of admission.

The results of the study would help physicians and nurses become more aware of what older adults know and believe about CPR. This information would assist health care workers in their care of older patients. There are no risks or discomforts in the study, unless you find talking with me about this topic uncomfortable.

VOLUNTARY PARTICIPATION:

I want you to know that you do not have to be in this study if you don't want to. You may drop out at any time. Questions you do not wish to answer will be omitted. Your decision to take part, or not to take part, in this study will not affect your care in any way.

CONFIDENTIALITY:

The interview will take place in a quiet room on the ward. If you are in a private room, the interview may take place there. Your records from this study will be marked only by a number. Neither your name or any of your specific features will appear in any articles or talks about this study. The tape of the interview will be kept in a locked cabinet. Only myself, my research assistant and my research committee will review it. Your nurses and doctors will not see or hear about your records from this study from me. If you wish to, you may speak to them about your experiences.

I would be happy to answer any questions you have now. If you have any questions later, you can contact me, Dianne Godkin, at the address and phone number on the front page.

PARTICIPANT'S STATEMENT:

I have been read this information. I give my consent to be involved in the study "Cardiopulmonary Resuscitation: Knowledge, Attitudes and Opinions of Older Adults in Acute Care and Long-term Care Settings".

Participant's Signature ______________ Date ______________

Witness ______________ Date ______________

Appendix B

Information Form for Patient's Chart

University of Alberta
Faculty of Nursing

Study Title: Cardiopulmonary Resuscitation: Knowledge, Attitudes and Opinions of Older Adults in Acute Care and Long-term Care Settings

Name of Investigator:	Supervisor:
Dianne Godkin M.N. Candidate Faculty of Nursing University of Alberta 492-6260	Dr. Janet Kerr Faculty of Nursing University of Alberta

Date: ______________________

Today, ______________________ participated in the above named study. Permission from the attending physician to approach the patient was obtained, and informed consent from the patient was secured.

The study involved a taped interview of about one hour in length, and included questions about each of the following:

- the patient's awareness and understanding of CPR
- the factors the patient felt were important in making a decision about CPR
- the patient's preferences regarding CPR
- the patient's current health and quality of life

The purpose of this study is to find out older adults' thoughts and beliefs about CPR, and their desired level of participation in the decision making process. It is not expected that patients will experience any negative effects from participating in this interview, but the discussion may stimulate further questions about CPR from the patient. The nurse caring for the patient is aware of the patient's participation in the interview, and is monitoring the patient for any signs of emotional upset.

If you would like additional information on this topic, or have any questions or comments concerning this study I would be pleased to hear from you and can be reached at the above address or phone number.

Appendix C

Patient Interview Guide

Interview Guide for the Study:

Cardiopulmonary Resuscitation: Knowledge, Attitudes and Opinions of Older Adults in Acute Care and Long-term Care Settings

Many people have at one time or another thought about their own death, and the manner in which they would prefer their death to occur. A number of factors may influence a person's attitude toward death. Some people think of death as a natural event, while others see death as something to be conquered and overcome. CPR, or cardiopulmonary resuscitation is a medical treatment used when a person's heart stops beating. CPR is performed in order to get the heart beating again, and restore life to the person.

In this interview, I want to talk to older adults, such as yourself, to find out some of your thoughts about CPR. I want to ask your feelings about things that you think are important to consider when deciding whether to have, or not have, CPR performed. I also what to know your feelings about CPR for yourself.

There are no right or wrong answers to any of the questions I'm about to ask, and I'd like you to respond in the way you feel best indicates your beliefs.

For some of the questions there is a range of several possible choices as an answer. I'll explain each of these as we go along. If you do not understand what a particular question is asking, or do not wish to answer a specific question just let me know.

Do you have any questions for me before we get started?

A. I'd like to start by asking you some general questions about CPR.

1. As I mentioned earlier, when a person's heart stops beating, there is a technique called cardiopulmonary resuscitation, or CPR for short, that is sometimes performed in order to restore the heart's beating. Could you tell me what you know about this procedure?

2. Have you ever had CPR performed on you?

3. Have you ever seen CPR performed on someone in an emergency situation?

    If yes, could you tell me about what happened?

        Probing questions, if not addressed:
            Where did this occur?
            Did the person survive?
            Do you know how that person is doing today?

4. Have you ever taken a course in CPR?

    If yes, have you ever performed CPR on someone in an emergency situation?

        If yes, could you tell me about that experience?

            Probing questions, if not addressed:
                Where did this occur?
                Did the person survive?
                Do you know how that person is doing today?

5. Has any health care worker, such as a doctor or nurse ever discussed CPR with you?

    If yes, can you tell me what you talked about?
        Probing questions, if not addressed:
            What did they tell you about the procedure?
            Why was CPR brought up--Was there a particular incident that prompted the discussion?
            Where did the discussion occur?

6. Would you say that the chance of a person surviving CPR and being able to resume their previous activities is <10%, 11-25%, 26-50%, 51-75%, or over 75%?

7. Do you think that a person's age would make a difference in their chance of surviving CPR and being able to resume their previous activities?

    If yes, would you say an older person's chance of surviving CPR is <10%, 11-25%, 26-50%, 51-75%, or over 75%?

8. What would you suppose would be your chance of surviving CPR and being able to continue your current level of activity? Would you say <10%, 11-25%, 26-50%, 51-75%, or over 75%?

B. Now I would like to ask you some more personal questions about CPR.

9. First, I will describe what CPR is in a little more detail. In general, cardiopulmonary resuscitation, or CPR, involves artificial breathing and chest compressions. A person or machine breathes into your mouth and presses on you chest. A person who undergoes CPR needs to go to the hospital, usually to an intensive care unit. The person may need to be connected to a ventilator or breathing machine. To do this a tube is inserted into the throat. The person is unable to talk until this tube is removed. CPR may also involve receiving electric shocks to get the heart restarted, or taking drugs. Some persons recover fully. Other persons may experience brain damage because of a lack of oxygen which occurred during the time the heart was stopped. Without CPR death would occur a few minutes after the heart stops beating. Considering what you know about CPR, if your heart was to suddenly and unexpectedly stop beating today would you want to receive CPR? Would you say

yes, definitely I'd want CPR done
yes, I think I'd want CPR done
I'm not sure if I'd want CPR done
no, I don't think I'd want CPR done
no, I definitely would not want CPR done

If answered yes, or no: Could you tell me what made you decide to answer yes or no?

If answered I'm not sure: What else would you want or need to know or do before being able to answer yes or no to the question?

10. When making a decision to either give CPR or withhold CPR, a number of factors may come into play. I'd like to ask your opinion about some of these factors. I would like you to respond with one of the following --

   a) not at all important
   b) somewhat important
   c) very important
   d) unsure

10.1 Do you think a person's current quality of life should be considered?

10.2 Do you think the health of a person should be considered?

10.3 Do you think the financial impact on a person should be considered?

10.4 Do you think the financial impact on society should be considered?

10.5 Do you think the age of a person should be considered?

10.6 Do you think an individual's wishes should be considered before making a decision to administer or withhold CPR?

10.7 Do you think a person's mental abilities should be considered?

10.8 Do you think a person's chance of surviving CPR should be considered?

10.9 Do you think a person's marital status should be considered?

10.10 Do you think a family's wishes should be considered?

10.11 Lastly, do you think a person's ability to take care of him or herself should be considered?

11. Of the following people, who would you want to be involved in making a decision to perform CPR on you? Please answer yes, no, or not sure.

11.1 Would you, yourself want to participate in the decision?

11.2 Would you want your doctor to participate?

11.3 Would you want the nursing staff looking after you to be involved?

11.4 Would you want your family to be involved?

11.5 Would you want your religious leader to take part in the decision making process?

11.6 If you had a social worker, would you want him or her to be involved?

12. Is there anyone else who you would like to be involved in the decision to perform or withhold CPR?

13. If there was a disagreement, who should have the final decision?

14. If you were unable to be involved in the decision to have or not have CPR--for example, if you were unconscious--who would you want to be involved in making the decision?

Doctor?

Nurse(s)?

Family?

Religious Leader?

Social Worker?

Other?

Who would you want to make the final decision?

15. Now, if at some time in the future, your doctor felt CPR would be of no medical benefit to you, and recommended that you not have it done if your heart were to stop beating, would you want to be informed of this?

16. Have you ever discussed your wishes regarding your future health care with your family?

17. Have you ever discussed your wishes regarding your future

health care with your doctor?

18. Have you ever discussed your wishes regarding your future health care with your lawyer?

At this point, I'd like to ask a few personal questions about you and your current health and quality of life. The purpose of asking these questions is to get a better picture of the type and variety of people in the study. Again, if there are any questions you do not wish to answer they can be omitted.

DEMOGRAPHIC DATA

From the Chart:

Age: ____________________ Sex: ____________

Length Since Admission: __________________

Resuscitation Status: ___________________

Type of Institution: ______________________

Medical Conditions: ________________________________

____

____

From the Patient:

Level of Education Completed: ____________________

Marital Status: _____________________

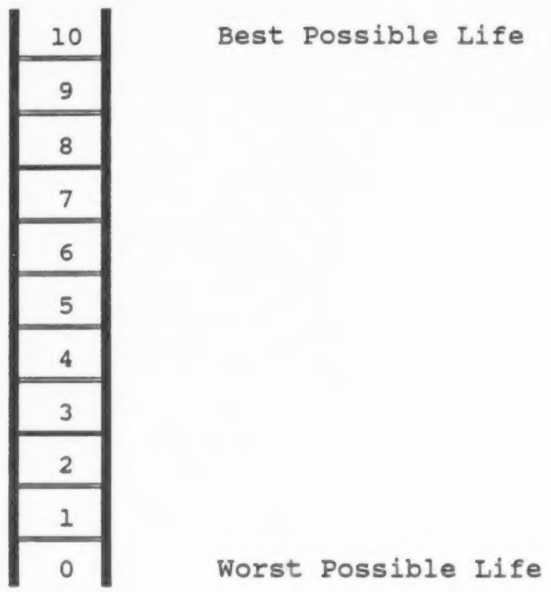
Number of Children: __________________

Health During the Previous Year:
1. not good at all
2. fair, not too good
3. good
4. very good
5. perfect, couldn't be better

Do you consider yourself a religious person? __________

Do you believe in a life after death? ___________________

Cantril's Self- Anchoring Striving Scale



Here is a picture of a ladder. Suppose we say that the top of the ladder represents the best life you can imagine--the ideal life. The bottom of the ladder represents the worst possible life you can imagine.

Where on the ladder would you place your present life? ____________

Where on the ladder would you place the life you had last year? ____________

Where do you think your life will be on the ladder one year from now? ____________

In the best year of your life where on the ladder would you say you stood? ____________

(Cantril, 1965)

Index of Independence in Activities of Daily Living

Scoring: Independent scores 0. Dependent scores 1. The higher the score the more dependent the patient.

Bathing:

Independent: Assistance only in bathing a single part (e.g. - back) or bathes self completely.

Dependent: Assistance in bathing more than one part of body; assistance in getting in or out of tub or does not bathe self.

Dressing:

Independent: Gets clothes out, puts on clothes, manages fasteners; tying shoes is excluded.

Dependent: Does not dress self or remains undressed.

Going to Toilet:

Independent: Gets to, on and off toilet by self, cleans self (may manage own bedpan at night).

Dependent: Requires assistance.

Transfer:

Independent: Moves in and out of bed by self with or without mechanical supports.

Dependent: Requires assistance.

Continence:

Independent: Self-controlled.

Dependent: Partial/Total Incontinence.

Feeding:

Independent: Feeds self (may need preparation-buttering bread, cutting meat).

Dependent: Needs assistance, parenteral feeding.

(Katz & Akpom, 1976) Score 0-6

That, is the end of my questions for you, do you have any questions or comments for me.

You have been very helpful, and I appreciate your taking the time to talk with me about this issue. As I mentioned earlier, if you have any further questions or comments about the study you can contact me at the number indicated on the information sheet.

Appendix D

Letter to Instrument Evaluators

Date

Dear ______________________,

Thank you very much for agreeing to evaluate my instrument. For my Master's thesis, I plan to interview older adults in acute care and long term care facilities regarding their attitudes, opinions and knowledge about cardiopulmonary resuscitation. As very little information about this topic was found in the literature, this study will be at an exploratory/descriptive level.

I would appreciate your comments on the following areas, and any additional comments you might have.

1. Content: Do the questions make sense? Are they logical and relevant to the issue of CPR and older adults? Are there any important issues not addressed?

2. Format: Is the order of the questions logical? Does one question flow to the next smoothly? Are the directions for answering clear?

3. Language: Are the items unambiguous, succinct, easily read and understood? Is the vocabulary appropriate? Has neutral wording been used? Are the items free of emotionally loaded words, or other sources of bias? Is wording sensitive to the issue--tactful and diplomatic?

Three other persons with expertise in the areas of gerontology and/or ethics will also be evaluating this instrument. When I have received everyone's comments, I will revise the instrument accordingly, and again ask for your input. The interview schedule will be considered adequate when each item is agreed upon by three of the four persons evaluating the instrument.

If you have any questions, or require any additional information please call me at 492-6260 or 434-5047. Again, thank you for taking the time to evaluate this interview schedule, and assisting me in my study.

Yours sincerely,

Dianne Godkin, R.N.
M.N. Candidate
University of Alberta

Appendix E

Letter of Introduction to Nurse Managers

University of Alberta
Faculty of Nursing

Study Title: Cardiopulmonary Resuscitation: Knowledge, Attitudes and Opinions of Older Adults in Acute Care and Long-term Care Settings

Principal Investigator:	Supervisor:
Dianne Godkin	Dr. Janet Kerr
M.N. Candidate	Faculty of Nursing
University of Alberta	University of Alberta
492-6260	492-6253

Dear ____________________________,

My name is Dianne Godkin, and I am a M.N. Candidate at the University of Alberta. I have received permission to conduct a study entitled "Cardiopulmonary Resuscitation: Knowledge, Attitudes and Opinions of Older Adults in the Acute Care and Long-term Care Settings."

The study will involve an interview of not more than one hour in length which will be done in the patient's room, if private, or in an alternate quiet room on the floor if possible. The study will be conducted during the months of July, 1991 (and September, 1991, if additional subjects are needed).

Participants for the study will be chosen randomly from weekly lists of all those 65 years or older who are currently patients in _________ hospital. Persons who are in critical care areas and psychiatry will be excluded. Because of the nature of this study, participants in addition to being 65 or older must also meet the criteria of competency, be able to converse in English and medically stable.

It would be most helpful to me if I could approach your nursing staff for assistance in the following three ways:

1. The researcher would ask nursing staff if a potential participant who has been randomly selected meets the additional criteria of competency, ability to converse in English, and physical stability.

2. I would ask that the nurse caring for the patient introduce the researcher to the prospective patient.

3. If the patient is willing to participate in the study, and is not in a private room, it would be helpful if nursing staff could identify a quiet room on the floor where the interview could take place.

At the front of the chart of each patient who consents to participate, I will place an information form about the study. It is not expected that patients will experience any negative effects from participating in the interview, but the discussion may stimulate further questions about the issue of CPR. In the unlikely event that while talking about this issue the patient should become visibly upset, the nurse caring for the patient will be notified immediately and will resume responsibility for the patient's care. Pastoral care, psychiatric counselling and social workers may be able to assist in these cases.

I hope that the information obtained in this study will have relevance to health care workers with respect to patient education, policy making, and would increase our level of understanding about how older adults would prefer end of life health care planning, specifically with regards to cardiopulmonary resuscitation, to be completed.

If you have any questions or comments concerning this study I would be happy to answer them. I can be contacted at either ________ or _________. I would appreciate your sharing this information with your nursing staff members so that they are not surprised should I appear one day on your floor.

Yours sincerely,

Dianne Godkin, R.N.
M.N. Candidate
University of Alberta
Faculty of Nursing

Appendix F

Letter of Introduction to Physicians

University of Alberta
Faculty of Nursing

Study Title: Cardiopulmonary Resuscitation: Knowledge, Attitudes and Opinions of Older Adults in Acute Care and Long-term Care Settings

Principal Investigator:
Dianne Godkin
M.N. Candidate
University of Alberta
492-6260

Dear Dr. ____________________,

My name is Dianne Godkin, and I am a M.N. Candidate at the University of Alberta. I have received permission to conduct a study entitled "Cardiopulmonary Resuscitation: Knowledge, Attitudes and Opinions of Older Adults in Acute Care and Long-term Care Settings".

The study will involve an interview, of not more than one hour in length, of older adults (age 65 or over) who have been selected at random from a list of patients at ___________ hospital. Persons in critical care areas and psychiatry will be excluded. The study will be conducted during the months of July, 1991 (and September 1991, if additional subjects are needed).

Should the patient consent to be included in the study, an information form will be left at the front of their chart at the time of the interview. It is not expected that patients will experience any negative effects from participating in this interview, but the discussion may stimulate further questions about CPR which might be directed toward you, as the patient's physician. In the unlikely event that while talking about this issue the patient should become visibly upset, the nurse caring for the patient will be notified immediately, and will assume responsibility for the patient's care.

I hope that the information obtained in this study will have relevance to health care workers with respect to patient education, patient care and policy making. It would contribute to our understanding about how older adults would prefer end of life health care planning, specifically with regards to CPR, to be completed.

If you have any questions or comments concerning this study, I would be happy to answer them. I can be contacted at either _________ or _________.

Yours sincerely,

Dianne Godkin
M.N. Candidate
University of Alberta
Faculty of Nursing